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BERGSON AND EDUCATION

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BERGSON & EDUCATION

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WITH A FOREWORD BY

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FOREWORD

THE educational world is teeming with new experiments. No subject method, no tradition or department of it is so firmly established by tradition as to be immune. The principle which actuates our experimenters, if there be one, is rather dissatisfaction with the heretofore than any clear conception of the whither or the way that leads to it. It has been rather a blind groping than a clear-eyed search.

I attended some of the lectures contained in this book. They made clear and articulate to me what had hitherto been vague. I began to see the central increasing purpose which was expressing itself through our upward strivings. I found a reason for the dissatisfaction, and also for the faith that was in me. Many shared this feeling and have pressed for the lectures to be published. And we are glad that Dr. Wheeler has found time to prepare them for the press, so that others—not only teachers, but others who care about the progress of the race—may find them as stimulating to thought and helpful in practice as we have done ourselves.

J. L. PATON

18886

ACKNOWLEDGEMENTS

THIS book is an expansion of a course of public lectures which were delivered in the University of Manchester during the Session 1919-20, and which aimed at relating the various principles involved in current educational experiments.

It is obvious that throughout I am deeply indebted to M. Henri Bergson, whose philosophy provides me with a means of relating the different educational movements, and thus of appreciating their general trend. My thanks are also due to Professor Bompas Smith, who read the book in manuscript and made many valuable suggestions ; and to Miss E. J. Sanders and Mr. McKechnie for their aid in proof-correcting.

OLIVE A. WHEELER

The University of Manchester
April 1922.

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BERGSON AND EDUCATION

INTRODUCTION

IT has often been said of Professor Henri Bergson that there is nothing which he could not have been or done had he chosen. He might have been an artist, a musician or a novelist, a mathematician or a scientist, or even a politician, and in whatever direction his energies had been thrown, he would have stood out above his fellows. He has certainly succeeded in an almost impossible task—that of making himself one of the most talked-of men in Europe after having thrown in his lot with philosophers. If one is a politician, the chances are that one will get a few turns in the limelight ; and the scientist, too, may hope to get an occasional column in a newspaper, provided that his discoveries have practical bearings ; but the utmost that the philosopher can expect is a professorial chair in a university, and a quiet study in which to think his own thoughts and find in them what satisfaction he may. Perhaps after his death the general public will learn that a controversy had at one time raged round his thought—a controversy none the less real because the opponents never met in person. But while he is with them he is merely a voice crying in the wilderness, a voice which they do not hear. Bergson, however, is an exception to this general rule. During his lifetime he has been lionized and hero-worshipped. " Old-fashioned professors," says William James, " whom his ideas quite fail to satisfy, nevertheless speak of his talent almost with bated breath, while the youngsters flock to him as to a master."

It is not only the philosophical world that has been stirred into activity by Bergson's work. The general public has likewise shown a deep and continued interest in the development of his thought. When he came to

London in 1911, his lectures at University College were fully reported in *The Times*. For the first time in the history of English journalism, the interest shown in philosophical discourses was such as to justify verbatim reports. Both in London and Edinburgh (which he visited later) he left behind him groups of people of all types systematically studying his philosophy. His tour in America and Canada in 1913 was something of the nature of a triumphal procession, leaving in its wake disciples in all classes of society. In pre-war days, when man had time for disinterested speculation, he was the most hero-worshipped man in France. His lectures at the Collège de France were crowded with people of all nationalities, who came from far and near to gain a first-hand acquaintance with his philosophy. In 1914 the hall in which he was announced to lecture at five o'clock was usually crowded at two o'clock. His students were prepared to wait for hours in a close atmosphere, to endure considerable physical discomfort, and to attend another lecture in which they had no interest, in order that they might be sure of hearing him. Some who failed to gain entrance did not hesitate to stand in the pouring rain outside the windows of the hall, in the hope that they might catch some words that fell from his lips. He was in very truth the man of the hour.

What, then, is the secret of Bergson's marvellous popularity? It is certainly not to be explained by his career, which has been almost commonplace. He was born in Paris in 1859. His father was a Polish Jew and his mother of Irish extraction. He was a student of the University of Paris, where he specialized in mathematics, and he spent the next seventeen years of his life teaching in various places. At the age of thirty he gained a doctorate of the University of Paris for his philosophical thesis entitled *Essai sur les Données Immédiates de la Conscience*.[1]

[1] The English translation is entitled *Time and Free Will*.

Since 1900 he has been a professor at the Collège de France, and in 1914 he received the honour of being elected a member of the French Academy. In comparing his career with that of Rousseau, Burns, or Shelley, the first thing that strikes one is the conspicuous absence of sudden fluctuations and glorious failures. He has been eminently successful, even in the routine work that has fallen to his lot. The change from mathematics to philosophy is, perhaps, the one unorthodox development in his career. It certainly dismayed his mathematical tutors ; but his choice was justified, not only by the production of his doctorate thesis, but also by the subsequent publication of his other great works : *Matière et Mémoire* [1] and *L'Evolution Créatrice.* [2]

Is the secret of his popularity, then, to be found in his personality ? It is true that as a lecturer he possesses an incommunicable charm. He has the magical gift of personality, and handles an audience with ease. He is able to unfold a train of thought, no matter how intricate it may be, with the utmost precision. Indeed, his lucidity both in speech and writing and his resources in the way of expression are simply phenomenal. His picturesque literary style, his poetry, and his use and mastery of illustration and metaphor are so impressive, that it is easy at first to under-estimate the originality and the value of his contribution to philosophy. He is, indeed, a poet-philosopher, as was Plato. And his sincerity is contagious. There is not, there never has been, a more single-hearted seeker after truth. Philosophy is not a game to be cleverly played before spectators in love with cleverness. He puts the whole of himself, all that he is and has been, into his task of interpretation.

But neither his lucidity, his literary style, nor his

[1] English translation, *Matter and Memory.*

[2] English translation, *Creative Evolution.*

sincerity will entirely account for the interest shown in Bergson's thought. His philosophy appeals, because it is concerned with *Life* and not with thin abstractions. It asks questions which are vital to every man, be he philosopher, artist, or craftsman. What are we ? What are we doing here ? Whence do we come, and whither do we go ? These are the questions which he boldly asks ; and he points the way to their solution. His philosophy is not, and it does not claim to be, a closed system. It is rather a method of seeking truth, which results in a direct, though incomplete, vision of the nature of reality. Professor William James, who towards the end of his life relentlessly scrapped his own philosophy and openly declared himself a disciple of Bergson, says of it, that compared with most modern philosophical literature, which seems to be concerned with the turning over of the same few threadbare categories, " it is like the breath of the morning and the song of birds. It tells of reality itself, instead of reiterating what dusty-minded professors have written about what other previous professors have thought."

This philosophy, which is like the breath of the morning and the song of birds, and which deals with life itself, naturally appeals to all save the dusty-minded. And it stands in a peculiar and intimate relationship to the progressive educational movements of this age. Of course, it does not originate them : but it is the one philosophy that most adequately reflects the spirit of the age ; and since it deals with human personality, with life, it is the one philosophy that is best able to render explicit what educationists, who are also concerned with the living, are dimly groping after.

In the educational world to-day there are widespread signs of dissatisfaction with the old order of things. New views of human personality are influencing educational theory ; new ideas are being discussed ; and consequently

new methods of teaching and new forms of school government are being tried on every hand. There are certainly signs of life in education, but there is also temporary confusion. Fortunately, these progressive movements have a philosophy ready to hand, by means of which they may be related and unified. And it is the definite aim of this book to use Bergson's philosophy in order to render explicit the various principles, which appear to underlie these movements.

In the first part of the book an attempt will be made to lead the reader to the centre of Bergson's position. The philosophy will not be examined critically, nor in great detail ; for what is necessary for our purpose is an understanding of the whole view, comparable to an appreciation of a work of art. In the second section, the philosophical position outlined will be used to make explicit, and to criticize, the principles involved in recent educational developments. And some unsolved educational problems will be examined in the light of these principles, with the hope that the direction in which their solution is to be expected will be indicated.

PART I: *BERGSÓN'S PHILOSOPHY*

CHAPTER I

Intuition: A New Philosophic Method

MODERN philosophers have to face two profoundly disquieting considerations: first, a far-reaching doubt concerning the validity of knowledge, and secondly, the apparent failure of philosophy in the past to make any progress.

One has only to pause for a moment to realize that the nature of man's sense experience depends on his body, and especially on his sense organs. If he is suffering from jaundice, he sees everything yellow. If any one of his sense organs does not function, the world is a different place to him. And if nature had only given him different organs, if the range of vibrations for which he is adapted were more extended, or if there were no gaps in that range, how different would be his experience! His perceptual knowledge seems to be entirely relative to his bodily endowments.

Kant has gone further, and has tried to show that all our knowledge is relative—relative to the forms of thought supplied by our own minds. We can never know things as they actually are. We can only know them under the categories supplied by our own minds. All knowledge is, as it were, composed of *matter* contributed by the things-in-themselves and *forms* contributed by the human mind. "All objects of an experience to us are only phenomena," says Kant, "that is, mere ideas which, as represented, have no existence in themselves outside our thought."

If Kant's view be true, does it mean that man is foredoomed to failure in his speculations concerning the meaning of the universe? The history of philosophy in the past certainly lends force to this suggestion, for it is a history of failures. It presents a striking contrast to the history of modern science, where progress has been steady and continuous, each worker profiting by the labours of

his predecessors. But each philosopher has to go back to foundations, and there are almost as many rival systems of philosophy as there are philosophers. Is this impasse due to the utter inability of the human mind to find truth? Is Kant's criticism of human knowledge final?

Any serious thinker to-day has to take account of these questions, and it is one of Bergson's merits that he faces them with incomparable boldness. He replies that Kant's criticism of human knowledge must be regarded as final, *unless* there is some other way of knowing reality than through the intellect. He points out that Kant's position rests on the assumption that the mind is incapable of anything but "Platonizing": that is, receiving impressions in pre-existing moulds. And he claims that there is another method of knowing reality—the method of intuition. Instead of trying to grasp reality by subsuming it under concepts, by taking views of it from without, as the intellect does, it is possible to enter into it by intuition, to see it from within as it really is, and to possess it. The knowledge of the intellect depends on the point of view at which we are placed, and on the symbols by which we express ourselves, and is therefore relative. But intuitive knowledge neither depends on a point of view nor relies on ready-made symbols, and in those cases where it is possible it attains the absolute.

Bergson illustrates these two kinds of knowing by reference to the motion of an object in space. He says:

My perception of the motion will vary with the point of view, moving and stationary, from which I observe it. My expression of it will vary with the systems of axes, or the points of reference, to which I relate it: that is, with the symbols by which I translate it. For this double reason I call such motion *relative*: in the one case, as in the other, I am placed outside the object itself. But when I speak of an *absolute* movement I am attributing to the moving object an interior and, so to speak, states of mind;

I also imply that I am in sympathy with those states, and that I insert myself in them by an effort of imagination. Then, according as the object is moving or stationary, according as it adopts one movement or another, what I experience will vary. And what I experience will depend neither on the point of view I may take up in regard to the object, since I am inside the object itself, nor on the symbols by which I may translate the motion, since I have rejected all translations in order to possess the original. In short, I shall no longer grasp the movement from without, remaining where I am, but from where it is, from within, as it is in itself. I shall possess an absolute.[1]

The power of intuition which Bergson supposes that man possesses is neither occult nor mysterious. Everyone who has had experience of literary work knows that after the material has been collected, and notes and sketches made, it is necessary to make an effort, perhaps even a painful effort, to place oneself at the heart of the subject. When this has been done, and one is, as it were, *within* the subject, the material arranges itself as one goes along. The preliminary analyses and note-takings are the work of the intellect, and are, of course, necessary, but the finding of the movement, of the heart of the subject, is something different from the sum of the preliminary analyses. It is the work of intuition.

By intuition, then, is meant *intellectual sympathy* : the process of knowing an object by becoming it, and thus coinciding with what is most unique in it. And according to Bergson it is intuition alone that will conduct us to the inside of life. The mistake of man in the past has been to sacrifice intuition to intelligence, so that at present intuition is but vague and discontinuous.

It is a lamp nearly extinguished, which only burns brightly at long intervals and for scarcely a few seconds ... On our person-

[1] English translation, *An Introduction to Metaphysics*, pp. 1–2.

ality, on our liberty, on the place which we occupy in Nature, on our origin, and perhaps also on our destiny, it throws a vacillating and feeble light, but one which none the less pierces the gloom of night in which intelligence leaves us.[1]

But surely mystics and saints and poets of all ages have said this. They have realized that something more than intellectual analysis is necessary in order to apprehend reality. "After long intercourse with the thing itself," says Plato, "and after it has been lived with, suddenly, as when the fire leaps up and the light kindles, it is found in the soul and feeds itself there."[2] They have experienced, and consequently been able to describe, the process of intuition :

> That blessed mood,
> In which the burthen of the mystery,
> In which the heavy and the weary weight
> Of all this unintelligible world,
> Is lightened :—that serene and blessed mood,
> In which the affections gently lead us on—
> Until, the breath of this corporeal frame,
> And even the motion of our human blood
> Almost suspended, we are laid asleep
> In body, and become a living soul :
> While with an eye made quiet by the power
> Of harmony, and the deep power of joy,
> We see into the life of things.[3]

Poets have realized, too, that one moment of intuition may discount many intellectual arguments. Just when a human mind has most cogently proved that the world is nothing but matter and force, and human beings are nothing but marionettes, there may come a sudden intuitive realization of the spiritual nature of the whole.

[1] *L'Evolution Créatrice*, p. 290.
[2] *Epistles*, vii, 341. [3] Wordsworth : *Tintern Abbey*.

Just when we are safest, there's a sunset-touch,
A fancy from a flower-bell, some one's death,
A chorus-ending from Euripides—
And that's enough for fifty hopes and fears
As old and new at once as Nature's self,
To rap and knock and enter in our soul,
Take hands and dance there, a fantastic ring,
Round the ancient idol, on his base again—
The grand Perhaps![1]

If mystics and poets have previously realized the importance of intuition, it might well be asked wherein lies the special value of Bergson's contribution to the subject. The answer is not far to seek. He, and he alone, has shown just why and where the intellect fails, and what is the exact province of intuition. He affirms that our intelligence is specially adapted for *action*, and, consequently, is not disinterested. In order to live we have to act, and our first need is, therefore, for a simplification of reality to enable us to respond quickly and appropriately to our environment. And our intelligence makes this simplification by attending only to the utilitarian side of things.

I look and I think I see [says Bergson], I listen and I think I hear, I examine myself and I think I am reading the very depths of my heart. But what I see and hear of the outer world is purely and simply a selection made by my senses to serve as a light to my conduct; what I know of myself is what comes to the surface, what participates in my actions. My senses and my consciousness, therefore, give me no more than a practical simplification of reality. In the vision they furnish me of myself and of things, the differences that are useless to man are obliterated, the resemblances that are useful to him are emphasized; ways are traced out for me in advance along which my activity is to travel. These ways are the ways which all mankind has trod before me.

[1] Browning: *Bishop Blougram's Apology*.

Things have been classified with a view to the use I can derive from them.[1]

In order to reach the necessary artificial simplification, the intelligence, then, ignores the rich individuality of things, and attends, so to speak, only to their labels. How many of us can distinguish one sheep from another? All that we know is that they are sheep. In other words, we confine ourselves to reading the labels affixed to them, and fail to perceive those characteristics which differentiate the sheep from one another and which are easily discernible to the shepherd. We do not perceive the distinguishing marks, because to do so would be of no use to us in our actions: and it is the same pressure of utility that forces the shepherd to attend to them, for they are of use to him, although not to us. The reason, then, why our intelligence fails to take a disinterested view of the nature of reality is because it is cast in the mould of action.

Bergson, however, does not leave us here. He not only shows why, but also where, the intellect fails. It fails whenever it attempts to deal with *change* or *becoming*. One of its devices for purposes of action is to treat what is really moving by fixing it, and consequently it is characterized by a natural incomprehension of *change* in all its forms. The classical paradoxes of motion associated with the name of Zeno are but examples of this failure to deal with one form of change, and their detailed consideration may therefore help us to see the full force of Bergson's criticism of the intellect.

The simplest of these paradoxes is that of the arrow in flight. Zeno argues that at any single instant of time the arrow in flight occupies a certain position, and is therefore at rest at a given point. Obviously, it would take at least two instants for it to occupy two successive positions.

[1] *Laughter: An Essay on the Meaning of the Comic*. English translation, 1913, pp. 151–2.

Therefore at *any* single instant of time it is at rest. And this is equivalent to saying that at *every* instant, at every point in its passage, it is at rest. Therefore motion is impossible.

"How absurd!" says the archer. "Did not the arrow leave my bow a moment since, and is it not now transfixed in the mark at which I aimed? Motion impossible, indeed! I know from *experience* that the arrow moves." The full force of the paradox is to be seen just here. Direct experience affirms that the arrow moves, but the arguments of the intellect prove that it cannot move. The truth is that the intelligence fails to comprehend motion. It takes outside views of it, and, judged from the outside, motion is only "the occupancy of serially successive points of space at serially successive instants of time." But judged from the inside, that is, by intuition, whatever else it is, it is not this, for it is not static. Our intelligence only serves to give us juxtaposed views or snapshots of the moving. Of the transition itself it tells us nothing. How the arrow gets from one position to another is of no interest to it. Of course the arrow gets there by moving, but the positions—which are all that can be seen from the outside—however numerously multiplied, contain no element of movement; and so Zeno, using nothing but these in his argument, has no alternative but to say that the intellect repudiates motion as a non-reality. Things certainly *appear* to move, but they cannot really do so, for there is no flaw in the logical argument. But to Bergson motion is the reality—the reality which the intellect lets slip through its grasp, and which can be apprehended only by intuition. Instal yourself in the change, in the movement, and you will have delivered into your hand the successive positions; but from these positions, perceived from without as immobilities, you will never reconstitute the movement.

The same difficulty frequently appears in another form. Suppose that there are two points, A and B, separated from one another in space (Fig. 1). It is easy to show by intellectualist logic that it is impossible to move from A to B.

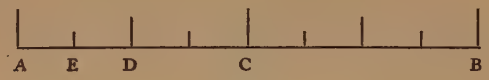

Fig. 1

For in order to move from A to B, it is first necessary to move through half that distance, that is, from A to C; and in order to move from A to C it is first necessary to move through a quarter of the distance, that is, from A to D; and in order to move from A to D it is first necessary to move through one-eighth of the distance, that is, from A to E. And since A B is infinitely divisible, there is always some other subdivision, that must first be traversed, and consequently the movement from A to B can never be completed. In short, it is impossible to move from A to B.

"How absurd!" says the man in the street, and he thinks he has disposed of the paradox by giving a practical proof of its absurdity, by doing what Zeno declared to be impossible. But in reality the paradox goes deeper. There is no flaw in the logical argument. Why, then, is there this contradiction between experience and logic? According to Bergson, the paradox arises from the insufficiency of the intellect to deal with movement. Grasped by intuition the movement from A to B is indivisible, like the tension of an arc. The device of Zeno is to treat the movement like the line A B, that is, as static; but everyone knows from direct experience that to treat a movement which was begun, continued, and ended without a break, as infinitely divisible, is to distort it. If the movement is

divided it is no longer the same thing. It is two movements with a rest in between. From the outside there is no difference, the path traced is the same ; but from the inside there is a world of difference. To grasp a movement as it really is, then, we must not analyze it by the intellect, but rather place ourselves within it by intuition.

The difficulty that arises from treating movement as a series of immobilities takes its most acute form in the paradox of Achilles and the tortoise, in which Zeno argues that if the tortoise has ever so small a start the swift runner Achilles can never overtake him. For the sake of clearness suppose that the accompanying diagram (Fig. 2)

Scale : 20 yds. to 1 inch
A's handicap - 50 yards. A's speed : T's speed :: 5 : 1

Fig. 2

represents the race-course, the relative speeds of Achilles and the tortoise being as five to one, and the handicap of the former being fifty yards. Let A and T represent the initial positions of Achilles and the tortoise respectively. Now, let Achilles run the fifty yards to the position A2. During the time which he takes to do this, the tortoise will have run one-fifth of that distance (ten yards), to the position T2. Let Achilles now run the ten yards to the position A3, and the tortoise will run two yards, that is, to T3. Let Achilles do this, and the tortoise will have time to run two-fifths of a yard. And however long this goes on the same principle will apply—that the time taken by Achilles to reach the last starting-point of the tortoise will be sufficient to allow the tortoise to make some advance, and thus to maintain his lead. This can go on *ad infinitum*, the interval between the pursuer and the pursued

ever growing smaller, but never becoming wholly obliterated. Therefore Achilles can never overtake the tortoise.

What an absurd conclusion ! The whole of experience from the time of Zeno until the last Derby race goes to show that Achilles can overtake the tortoise, the swift runner the slow. And yet there is no fallacy in the logical argument. How, then, can we account for the contradiction between experience and logic ? Like the other arguments, this also depends on the supposition that what is true of the line along which movement passes is true of the movement. The line lends itself to any mode of decomposition, because it has no internal organization. On that very score it can be adequately dealt with by the intellect. But all movement is articulated internally, and must therefore be dealt with by the method of intuition. Consider Achilles. Put yourself in his place, and what do you find ? You find that each of his steps must be treated as an indivisible. He either takes a whole step or nothing. He never takes a minute fraction of a step. Put yourself in the place of the tortoise, and you find the same. Both movements have natural articulations which must be respected. The artifice of Zeno was to recompose the movement of Achilles according to an arbitrarily chosen law. Let him first do fifty yards, then ten yards, two yards, two-fifths of a yard, and so on. Judged from the outside there may be no objection to this : but judged from within any one of these distances, or all of them, may be found to cut across the natural articulations of the movement, thus dividing where division is unjustifiable.

In general, Bergson concludes that these contradictions which Zeno outlines arise because intellectualist logic is insufficient to deal with motion. The intellect will do for matter, for the static, but it will not do for any form of change or becoming. That must be grasped by intuition. The province of intuition is therefore obvious. Whatever

exists, the essence of which is change or becoming, must be grasped intuitively if it is to be grasped as it actually is. The snapshots which the intellect takes of a changing reality are, of course, a necessary preparation for the act or acts of intuition, but they alone always let slip the movement itself.

Ordinarily we regard rest as simpler than motion, and we try, like Zeno, to derive the latter from the former, but without success. Bergson escapes the difficulty by beginning at the other end. Movement is the simple, original thing-in-itself, apprehended by intuition, whereas rest is secondary and derived. Two passengers in trains moving side by side in the same direction at the same rate will appear to one another to be at rest. Immobility, then, is composed of two equal simultaneous movements. Thus, if we start with motion, rest finds a place in our scheme of things ; but if we start with immobility, as did Zeno, we have to deny the existence of motion, in direct contradiction to the whole of experience.

Change, then, is the reality, the thing-in-itself, and can only be grasped by intuition. And all the biggest things in existence—human personality, life, spirit—are forms of change. Bergson's whole philosophy is an attempt to discover the nature of these realities by the method of intuition. It is not so much a system of thought as a new method of seeking truth. Consequently it requires for its appreciation a kind of intellectual conversion. On this account it is, perhaps, the high priests of the old order who have the greatest difficulty in understanding this new philosopher As a French disciple of his expresses it :

Bergson claims of us first of all a certain inner catastrophe, and not everyone is capable of such a logical revolution. But those who have once found themselves flexible enough for the execution of such a psychological change of front discover somehow

that they can never return to their ancient attitude of mind. They are now Bergsonians—and possess the principal thoughts of the master all at once.

We have to begin by putting off our proud maturity of intellect and becoming again as little children in the eyes of reason. "Philosophy is so simple," says this, the subtlest of all living philosophers, "and you are so learned." If you would know the biggest things in existence—human personality, life, spirit, even God himself—you must grasp them by a living understanding, and not through the intellect, which works by conceptual logic. It is intuitive sympathy alone which will put you, in a flash, at the heart of reality.

CHAPTER II

Duration

FROM the study of Zeno's paradoxes it has become apparent that the intellect, which works by analysis, is incapable of comprehending motion. Its function seems to be to take snapshots of the moving for purposes of action, thus reducing it to a series of immobilities. And the function of intuition is to grasp the real—namely, change. A cinematograph film is prepared by taking snapshots of a moving scene at small intervals of time. But no matter how many views are juxtaposed in space, or how small the intervals of time between them, the static snapshots bear little resemblance to the changing reality. The inventor of the cinematograph realized that in order to arrive at even a moderately adequate representation of the moving scene it is necessary to reintroduce the movement. So it is with human thought. The snapshots of the intellect, however frequent they may be and however useful for practical purposes, can never reveal the nature of anything the essence of which is to change. It is by intuition alone that the movement can be reintroduced, and the real—which is ever changing—be apprehended as it is in itself.

That which changes exists in time, and to spread it out in space, as the intellect does, is to distort it. To grasp it as it is, one must seize it in its flowing through *time*. Bergson's intuition thus differs from that of most thinkers. If, as is usually supposed, the real is the changeless and the eternal, then in order to apprehend things-in-themselves it is necessary to get outside time and to see them *sub specie æternitatis*. There is thus imposed on the finite philosopher a seemingly impossible task. But Bergson holds that in order to grasp the real as it is, one must seize it in its flowing through time, that is, *sub specie durationis*. No one who has heard this French philosopher lecture is

ever likely to forget the sound of his voice, the crisp intensity of articulation, when again and again he insisted upon the necessity for self-instalment in change or becoming. "You must get within this mobility." "You must place yourself at a bound in true duration." It is the reiterated pleading of a great conviction. To grasp a changing reality one must follow it in all its history by a living understanding. This is a difficult, but by no means an impossible, task. Bergsonian intuition, then, might be described as the grasping of changing realities *sub specie durationis*.

Time, then, occupies a unique place in Bergson's thought; and before we can proceed to apply the method of intuition to the solution of any further problems it will be necessary to consider one of the most difficult questions in the whole range of philosophy, namely, the nature of time. It was the great mystery to Carlyle:

> The illimitable, silent, never-resting thing called time: rolling, rushing on, swift, silent, like an all-embracing ocean tide, on which we and all the universe swim like exhalations—like apparitions which *are*, and then *are* not; this is for ever very literally a miracle: a thing to strike us dumb—for we have no word to speak about it.

There is a suggestion in this paragraph that time is a thing which the intellect cannot grasp, but which is, nevertheless, something fundamental—a position most skilfully developed by Bergson in his doctorate thesis, *Time and Free Will*. According to the intellectualist, time is a homogeneous medium in which changes take place. A man develops from babyhood to childhood, to boyhood, and to maturity in an empty medium—time—which can be divided and sub-divided indefinitely, since it has no quality. We can say of him that he is forty years, or five hundred and twenty lunar months, or two thousand

and eighty weeks old. But this is an outside view, being designed for a practical end, namely, to facilitate comparison between his duration and that of other men. In Bergson's view, time thus conceived, mere clock-time, is a "spurious concept due to the trespassing of the idea of space upon the field of pure consciousness." Just as in the case of the movement of the arrow the intellect fails to grasp mobility itself, and merely resolves it into the path along which the arrow moves, so here it fails to grasp true duration, which is the very mobility of Being, and is content with an empty medium in which changes are said to take place.

The physicist standing on the bank of a river with a stop-watch in his hand may tell the drowning man that he has only been in the water two minutes ; and yet, in that short space of mathematical time, the drowning man may have reviewed his whole life's history. From the mathematical point of view those two minutes are the same as any other two minutes in the man's life, but how different to the man himself ! The truth is that experienced duration, real time, is not uniform nor measurable. It is quality, not quantity. It is not the path, the medium in which a man grows old : it is the very process of growing old itself.

In one of his earlier novels, *The Time Machine*, Mr. H. G. Wells tries to work out the intellectualist view that time is merely an empty medium in which changes take place ; and his treatment is most illuminating, especially in its inconsistencies. He tells the story of a scientist who adopts the theory that time is a fourth dimension of space, and invents a machine which can ride through time as a bicycle rides through space. Seated on this machine it is possible, by pulling one lever, to travel into the past, or, by pulling another, to shoot into the future. The inventor sets out one morning and rides thousands of years into the

future. Then he stops the machine, and lives for a short time under the new conditions, encountering the new races of men which have sprung meantime into existence. His weird experiences are described in detail. Eventually he succeeds in rescuing his machine from the inhabitants, into whose hands it had fallen, and rides back to recount his experiences. Although Wells set out to regard time as spatial, it seems that at a certain point he could not help introducing real time, which is something quite different. It was in the morning that the inventor started ; it is in the evening of the same day that he returns. Now, if time is only a fourth dimension of space, why should not the man have ridden back to the same point from which he started ? Why should there be this difference of nine or ten hours ? It is due to the accidental introduction of real, as opposed to mathematical, time. Wells cannot get away from the fact that the man could not have undergone the experiences which he describes without the passing of real time. Then, again, if time be only a form of space, there is no reason why he should not have ridden back to the same conditions as well as to the same minute. Yet the inventor returns hungry, weary, footsore, and blood-stained. The truth is that there is a confusion between *mathematical* time, through which the man *rides*, and which leaves no impress upon him, and *real* time, which he *lives*, and which leaves on him its indisputable marks. The first kind of time is not time at all. If it had been, then when the inventor had travelled through a few years and reached the allotted span of human life, the time-machine would have dashed into futurity without a rider. For real time, " like an ever-rolling stream, bears all its sons away." But Wells supposes that the scientist was left unaffected, even when he arrived at the moment of his own death. Obviously such time is, as Bergson declares, a " spurious concept."

The same paradox between clock time and real time is amusingly depicted in Lewis Carroll's account of the Mad Hatter's Tea Party in *Alice in Wonderland.* According to the Mad Hatter, time could be made to stop. It was because he himself had succeeded in stopping time that the tea party was always going on. And it was possible to jump from one point in time to another without living through the intervening periods. "For instance," he says to Alice, "suppose it were nine o'clock in the morning, just time to begin lessons: you'd only have to whisper a hint to Time, and round goes the clock in a twinkling! Half-past one, time for dinner!" "That would be grand, certainly," said Alice thoughtfully; "but then—I shouldn't be hungry for it, you know." Obviously Alice realizes that the Mad Hatter's idea of time was insufficient to represent real time. It was a mere abstraction. She saw that time affects persons and things, leaving them hungry, or somehow different from what they were. Real time, then, is not static: it is not an empty medium in which changes take place: it is not a space in which one can jump from point to point. It is the very process of change itself. "True duration," says Bergson, "is essentially that which bites things and which leaves on them the imprint of its teeth. If everything is in time, everything changes internally, and the same concrete reality is never repeated. . . . We cannot *think* real time. But we *live* it because life surpasses intelligence."

To seize a thing *sub specie durationis*, then, does not mean to spread it out in space, but to enter into its life, its history, by a living understanding; to see it as it endures by changing; to grasp it as a true duration.

CHAPTER III

Consciousness

WE have seen how the use of Bergson's new philosophic method solves the paradoxes of motion: but, however urgent these problems may have been to Zeno, they can scarcely be said to weigh heavily on the modern mind. To-day we are much more concerned with problems of human personality; problems of the origin and evolution of life, and of the relation between matter and spirit, than we are with any paradoxes of motion: and it is in relation to these peculiarly modern problems that it will be most useful to test the possibilities of the new method of intuition. Will it really work? Will it throw any light on the problems which this generation most earnestly seeks to solve?

A whole group of such problems centre round the nature of consciousness. There is no thoughtful individual who has not at some time or other felt the pressure and the urgency of his questionings concerning the nature of his own mind. What am I? Am I a unity or a multiplicity of states of consciousness? What is the relation between my past, my present, and my future? Am I free, or are all my actions and thoughts predetermined? Have I any responsibility for my destiny? These are some of the questions which occupy the modern mind, just as the paradoxes of motion interested antiquity. Here, then, is an appropriate province for the first test of the value of the new philosophic method.

At first, when I turn my attention inwards and try to introspect my mind, I find juxtaposed states of consciousness, each in turn giving place to the next. Suppose, for example, that I observe what is happening in my own mind when I am listening to a lecture. I am able to distinguish mental processes which succeed one another. I *hear* a voice; I *attend* to what is being said; I am *interested* in a

fashionable hat in front of me ; I *make an effort to attend* again to the lecture ; I *follow the argument* ; I *wish* that I were comfortably reclining in an armchair ; I *feel* a twinge of *pain*. These states of *hearing*, *attending*, *interest*, *effort*, *desire*, and *pain* appear to be juxtaposed to one another. Am I, then, the sum of all such states, or am I something behind them holding them together ? In other words, am I a unity or a multiplicity of states ? The problem bristles with difficulties. If I decide that I am the sum of the states, I am not satisfied ; for I feel in the depths of my being that I am something more than disappearing states. On the other hand, if I decide that I am a unity—something permanent behind the states, a kind of thread holding them together—I am still dissatisfied. This view makes me too attenuated. I seem to have no content. Surely I am something more than a thin abstraction—a unity, an unknown something, x, holding states of consciousness together.

How is this difficulty to be solved ? Bergson would say that the difficulty, like the paradoxes of motion, arises from an attempt to know a true duration by analysis. By this method Zeno was able to prove that an arrow in flight could not move. By taking snapshots of a movement, and juxtaposing them in space, he was able to convert mobility into a series of fixed positions. The superficial introspection of self, which results in its analysis into separate states of consciousness, is exactly analogous. It is the taking of snapshots of what is moving ; the spatializing of a true duration. It turns a *dynamic* flux into separate *states* of consciousness, that is, into things that are *static*. It distorts the self, for it sees it from without, instead of from within.

Not only external objects, but even our own mental states, are screened from us in their inmost, their personal aspect, in the original life they possess. When we feel love or hatred, when we

are gay or sad, is it really the feeling itself that reaches our consciousness with those innumerable fleeting shades of meaning and deep resounding echoes that make it something altogether our own? We should all, were it so, be novelists or poets or musicians. Mostly, however, we perceive nothing but the outward display of our mental state. We catch only the impersonal aspect of our feelings, that aspect which speech has set down once for all because it is almost the same, in the same conditions, for all men. Thus, even in our own individual, individuality escapes our ken. We move amidst generalities and symbols, as within a tilt-yard in which our force is effectively pitted against other forces; and fascinated by action, tempted by it, for our own good, on to the field it has selected, we live in a zone midway between things and ourselves, externally to things, externally also to ourselves.[1]

What we have to do, then, in order to solve the paradox between the unity of self and the multiplicity of states, is to get deeper into ourselves. We have to try to seize our own consciousness in its flowing through time, to grasp it by intuition. And when we succeed in doing this we find that it is neither a unity nor a multiplicity of states. In a sense, it is both at once: for it is essentially a dynamic duration, a continuous and creative flux.

Put aside artificial reconstructions of thinking . . . consider thinking itself; you will find directions rather than states, and you will see that thinking is essentially a continual and continuous change of inward direction.[2]

Viewed from within, the separated states of consciousness are seen to telescope into each other. For example, no one can say when a state of joy begins or ends. It may influence judgment after judgment, perception after perception: in short, it may reverberate through the whole

[1] *Laughter*, pp. 153–4.

[2] *Mind Energy* (translated by Wildon Carr), 1920, p. 45.

gamut of experiences. On this account an individual can never have precisely the same experience twice. The intervening developments will be accumulated in the second experience, and will thus modify it in its depths, even if it be the same superficially.

There is a succession of states, each of which announces that which follows and contains that which precedes it. They can, properly speaking, only be said to form multiple states when I have already passed them and turn back to observe their track. Whilst I was experiencing them they were so solidly organized, so profoundly animated with a common life, that I could not have said where any one of them finished or where another commenced. In reality no one of them begins or ends, but all extend into each other.[1]

Consciousness, then, is essentially process and change. Man is "hurled from change to change unceasingly, his soul's wings never furled." His consciousness continually expands, develops, and ripens. As Bergson puts it, his whole psychical existence is something like a "single sentence, continued since the first awakening of consciousness, interspersed with commas, but never broken by full-stops."[2]

Above all else, consciousness signifies *memory*, the preservation and accumulation of the past in the present. But it is not only memory ; it is also anticipation of the future. There is no consciousness without a certain attention to life, and attention is expectation or anticipation of the future. Indeed, even when the mind is occupied with what now is, it is specially concerned with what is about to be.

"We recline on our past and incline towards our future,

[1] *An Introduction to Metaphysics*, pp. 9–10.
[2] *Mind Energy*, p. 56.

and that reclining and inclining seem to be the very essence of our consciousness."[1]

It is not difficult to see that this view of consciousness allows of a certain measure of freedom to each individual. Indeed, it provides a solution to the greatest of modern paradoxes—that of free will. On one occasion Dr. Johnson is reported to have said that all argument is against free will but all experience is in its favour. And it is certainly true that when it comes to an argument between a determinist and a supporter of free will, the former usually wins. Logic seems to favour him. Yet he never converts the opponent who continues to feel himself free. There appears, then, to be a contradiction between logic and immediate experience in regard to free will, similar to that underlying Zeno's paradoxes of motion.

Bergson shows that this difficulty arises from the spatializing of consciousness ; the artificial reconstruction of a duration into fixed and mutually exclusive states. The device of the determinist is to view every act from without retrospectively, to separate it from its *before* and *after*, to take snapshots of a duration. And just as Zeno found no room for motion when he viewed the flight of the arrow in this way, so the determinist finds no room for freedom in human consciousness. But Bergson advocates viewing the act from within, if we would know whether it is *free* or *caused*. If it issues from the real self, if it reclines on the whole of the past and inclines towards the future, it is a *free* act, "since the self alone will have been the author of it, and since it will express the whole of the self."[2] On the other hand, if it expresses some superficial idea, almost external to the drive of the individual's life, it is not free, but *caused*. For example, suppose that an individual were to

[1] *Life and Consciousness* (*Hibbert Journal*, October 1911), p. 28.

[2] *Essai sur les Données Immédiates de la Conscience*, p. 166.

attend an educational meeting. Was that an act of free will? Bergson would reply that it all depends on the relation that existed between that single act and the whole experience of the individual. The act cannot be judged in isolation; nor can it be understood if viewed from without. If the individual put in an appearance at the meeting because someone happened to ask him to go, or because he was at a loss for something to do, then the action was not free. It was *caused* by his environment. On the other hand, if he attended, because education was one of the dominant interests of his life, in other words, if his action issued from the depths of his being, then it was *free*. Freedom, then, rests not so much on the inexplicability of actions, as on the fact that certain actions are to be explained only by the whole drive of consciousness. And although only those acts are free which issue from the urge of consciousness itself, yet freedom in this sense is declared by Bergson to be one of the clearest facts established by the method of intuition.

But it may be argued that this admission of freedom into the universe is against the findings of science, and, in particular, is in direct contradiction to the law of conservation of energy. In reply, Bergson shows that the law of conservation of energy, like all physical laws, is no more than a deduction from observations of *physical* phenomena, and therefore to extend it arbitrarily to *psychical* phenomena is both illegitimate and unscientific, at least until it has been verified in cases in which consciousness feels itself in possession of a free activity. But so far this has not been done: and the onus of proof, therefore, still remains with those who hold that the feeling of freedom is illusory.

Closely interwoven with the question of free will is that of the relation between body and mind. The brain of an individual is *in space*, and is subject to the laws of matter: his consciousness is *in time*; it is a true duration, which

apparently can create, that is, can yield more than it receives. How, then, are these two related ?

It would take too long to examine all the arguments put forward by Bergson in *Matière et Mémoire* in support of his view of the relation between body and mind. It is perhaps sufficient for our purpose to notice that certain facts connected with the onset of mental diseases, and in particular of progressive aphasia, are shown to be inconsistent with the belief that there is a point-to-point correspondence between cerebral and mental changes. Whatever may be true of sensations and movements, it is highly improbable that there is any sort of equivalency between cerebral changes and memories, or between cerebral derangement and loss of memory. Bergson, therefore, rejects all forms of the theory of parallelism between body and mind. The brain is not the organ of consciousness in general, nor even of memory. It is rather the organ of attention to life. Its function is to keep the mind fixed on that part of the material world which concerns its action. Only a small part of what takes place in consciousness is thus translated by its mediation into movement. The brain is, as it were, only the point of insertion of mind in matter : it is merely a sensori-motor organ.

According to Bergson, then, human consciousness in its innermost nature is a duration—a dynamic flux. It is not a series of separated states, mechanically related. It develops from within, ever enriching itself by experience ; and it is free and creative when it is most itself. It is at once an accumulation of the past and a drive towards the future. In short, it is supra-mechanical. And although it uses the brain in order to insert itself into matter for purposes of action, it overflows the body both in space and time. It is, therefore, not improbable that it may even survive the disintegration of the body.

CHAPTER IV

Creative Evolution

THE use of Bergson's new philosophic method has revealed the truth that human consciousness at its deepest is a true duration, a creative mobility ; and incidentally light has been thrown on some of the most controversial problems of personality. It will probably be agreed that the value of the new method has been proved within the province to which it has so far been applied. But it may be argued that to grasp the self by intuition is comparatively easy, and that serious difficulties will only arise when we try to grasp what is outside ourselves. "We may sympathize intellectually with nothing else, but we certainly sympathize with our own selves."[1] To test the value of the method in relation to our own consciousness is therefore not enough : we must ask what light it throws on other forms of change. It has already been shown that the ancient paradoxes of motion can be solved by means of it ; and its application has been even more fruitful and illuminating in regard to the nature of life—both the life of an individual organism, and life as it passes from generation to generation.

According to Bergson, any living organism, no matter where it stands in the scale of evolution, is something more than a machine. In the first place it is a true individual, having been isolated and closed in by Nature herself, and not merely by our ways of perception.

It is, of course, true that a machine has a low kind of individuality in so far as it embodies one purpose present to the mind of the inventor. But the individuality or wholeness of an organism is not that of the machine order ; for, when a part of it is destroyed by mechanical violence, the remaining sections sometimes succeed in regenerating the lost part. The newt that loses a limb can grow another ;

[1] *An Introduction to Metaphysics*, p. 8.

but the bicycle that loses a wheel has no such power of internal regeneration. It can only be repaired by the inventor, or those to whom its secret stands revealed. But a living organism seems to have within itself an *élan*, an urge towards completeness. This is strikingly borne out by some recent discoveries in embryology. If the development of an organism were mechanical, then certain parts of the embryo would always develop into corresponding parts of the mature organism. But it has been shown by Driesch that if, for example, the egg of the sea-urchin be taken when it consists of two cells, and one of them be killed, there results not a part of an organism—as would be required according to the machine theory—but a *complete* organism of smaller size. And a similar result is obtained if the experiment be tried at the four-cleavage cell stage. The only conclusion that can be drawn is, therefore, that the organism is, as it were, machine and inventor rolled into one. There is at work within it a directive principle—something supra-mechanical.

This urge towards completeness—this *élan vital*—will never, of course, be apprehended by intellectual analysis. Snarley Bob in Jacks' *Mad Shepherds* realized this when, in his own quaint way, he criticized Shoemaker Hankin.

> Now, there's Shoemaker Hankin—a man as could talk the hind-leg off a 'oss. He goes at it like a hammer, and thinks as he's openin' things out; but all the time he's shuttin' on 'em in and nailin' on 'em up in their coffins. One day he begins talkin' about "Life," and sez as how he can explain it in half a shake. "You'll have to kill it first, Tom," I sez, "or it'll kick the bottom out o' *your* little box." "I'm going to *hannilize* it," he sez. "That means you're goin' to chop it up," I sez, "so that it's bound to be dead before we gets hold on it. All right, Tom, fire away! Tell us all about dead life."

The directive principle in an organism—life—has, then,

to be grasped by intuition. According to Bergson, when thus apprehended it reveals itself as perpetually creating. The living organism develops ; its past is preserved in its present ; it has the mysterious quality of duration. Its very essence is to change, and to endure by changing. " Continuity of change, preservation of the past in the present, true duration—the living organism seems, then, to share these attributes with consciousness."[1]

Bergson goes further, and shows that not only the development of the individual, but the evolution of new species is due to this innate creativeness. In what is perhaps his greatest work, *Creative Evolution*, he traces the development of the various forms of vegetable and animal life, not so much because he is interested in the forms themselves, but because he seeks to find the nature of the life urge which pushes its way along the paths of evolution. He maintains that the sciences, which are concerned with life, usually confine themselves to the visible forms of living beings, their organs and anatomical elements. They make comparisons between these forms ; they reduce the more complex to the simple ; in short, they study the workings of life in what are, so to speak, only its visual symbols. They are concerned with fixed states of the moving, snapshots taken across the current of life. Using this method of analysis, it is quite possible to arrive at a theory of mechanical evolution. For example, some neo-Darwinian biologists explain the evolution of species by the blind mechanical operation of natural selection. Changes in organisms are responses to changes in environment, and by the working of the law of the survival of the fittest those which happen to be most suitable have a better chance of being transmitted. So, according to Darwin's followers (although Darwin himself did not go so far), evolution proceeds mechanically. But what Berg-

[1] *L'Evolution Créatrice* (1914), p. 24.

son would have us do is to grasp the continuity, the urge, which traversing generations binds individuals to individuals, and species to species, and makes of the entire series one immense vague current.

> What if all of animated nature
> Be but organic harps diversely framed,
> That tremble into thought, as o'er them sweeps
> Plastic and vast, one intellectual breeze,
> At once the soul of each, and God of all ?[1]

The method of intellectual analysis may do for the static forms, the "organic harps" through which the movement sweeps, but it is quite inadequate for the apprehension of the "intellectual breeze."

> Too often [says Bergson] we concentrate on the forms of life rather than its progress ; forgetting that even the permanence of the forms is only the design of a movement. But sometimes the invisible breeze which sweeps through them is materialized to our gaze in a fugitive apparition. We have this sudden illumination in the face of certain forms of maternal love—love which is so striking and touching in the case of most animals, and which is even observable in the solicitude of the plant for its seed. This love, in which some have seen the great mystery of life, will perhaps solve for us its secret. It shows us each generation passionately devoted to that which follows it. It teaches us that the living being is pre-eminently a resting-place, and that the essence of life remains in the movement which transmits it.[2]

Bergson claims that, apprehended by intuition, life or evolution reveals itself as unceasing creation. "There is an original creative impulse in life which passes from generation to generation," and which is comparable to a kind of effort—"an effort of far greater depth and far

[1] Coleridge : *The Eolian Harp.*
[2] *L'Evolution Créatrice*, p. 139.

more independent of circumstances than that of the individual." It is this which is the motive-power in the long process of organic evolution. It is not, indeed, out of relation to matter, but its direction is never wholly determined by it.

> I doubt [says Bergson] that the evolution of life will ever be explained by a mere combination of mechanical forces. Obviously there is a vital impulse . . . something which ever seeks to transcend itself, to extract from itself more than there is—in a word, to create. Now, a force which draws from itself more than it contains, which gives more than it has, is precisely what is called a spiritual force.[1]

This force has found resistances in matter and encountered obstacles in every direction. The result is that it has scattered itself along many divergent lines of evolution. Along some it has been successful, along others it has failed. In some cases the opposing forces have been too strong, liberty has been dogged by automatism, and in the long run has been stifled by it. But along other lines the creative impulse has succeeded, at least partially, in freeing itself from necessity ; and in man its chain has at last been broken. The scheme of evolution is therefore not to be represented by a single line. It is rather like the path of an explosive shell which scatters itself in all directions, the fragments in turn separating into other fragments. Although, then, there is one original creative impulse, there are distinguishable divergent lines of evolution.

Vegetable and animal life correspond to two such divergent developments. The former tends to specialize in the direction of obtaining its food from air, earth, and water ; that is, it perfects mechanisms for the *accumulation* of energy; and it loses the power of free movement. The

[1] *Life and Consciousness* (*Hibbert Journal*, October 1911), p. 40.

latter tends to develop mechanisms for a freer *output* of energy, and it is distinguished by its mobility. It is able to obtain its food from vegetables and from other animals, and it tends to live a life of action. This means adventure and risk, but it probably also means the awakening of consciousness. The tendencies characteristic of the two kingdoms to some extent co-exist in both; but there is a difference of emphasis, and this serves to distinguish the two courses along which the creative impulse has pushed its way.

In the animal kingdom evolution seems to have taken place along four main lines; in two of which, the molluscs and the echinoderms, it has been defeated by automatism; and in the remaining two of which, the vertebrates and the arthropods, it has been relatively successful. The former took the safe path and developed shells or other protective armour, thus sacrificing their mobility and encouraging the advent of torpor. These two lines, indeed, appear to be mere blind alleys along which the creative urge can find no further outlet. But in the vertebrates, the highest representative of which is man, and in the line of the arthropods, which has reached its highest expression in ants and bees, there is no such sacrifice of mobility to safety: and along these two lines evolution is still proceeding.

Thus, leaving out certain recoils towards vegetable life, animal evolution might be said to be accomplishing itself along two main paths; the one leading, in the main, to the life of instinct, the other to the life of intelligence.

The higher arthropods have developed some elaborate and relatively perfect devices which tend towards the preservation of the individual and the species. They are able to deal with a few situations in a way unequalled by the vertebrates, but they are characterized by an incapacity for solving quite simple difficulties with which they are unfamiliar.

For example, the solitary wasp exhibits a wonderful chain instinct at the nesting season. She begins by making a hole in the ground ; then she hunts for an edible caterpillar, which she stings in such a way that it is paralyzed, but not killed ; she drags this to the mouth of the hole, leaves it outside while she enters to see that all is well, comes out again, pushes or pulls the caterpillar in, and lays her egg upon it. Then she proceeds to cover up the hole. The purpose served by the stinging of the caterpillar is obvious. Its paralysis is necessary for the safety of the egg, and when the little wasp needs it there will be at its disposal a store of fresh meat. This item in the series, and, indeed, the whole chain, is wonderfully adapted for the preservation of the species.

Can we suppose, then, that the solitary wasp is conscious of the purpose that is served by its actions, and has the general knowledge of chemistry and anatomy necessary for performing intelligently the surgical operation on the caterpillar ? From their study of the behaviour of this species Fabre and Dr. and Mrs. Peckham agree that it is impossible to suppose that the chain of actions is carried out intelligently. Rather it takes place like clockwork. If the caterpillar is removed when the wasp leaves it outside the nest, the whole cycle will begin again. And no matter how many times this is done, the wasp apparently does not profit by experience, nor modify the series of actions, as it would do if it were conscious of the purpose served by the cycle of events. It is therefore difficult to suppose that it has a general knowledge of the anatomy of caterpillars. It is more likely that in this special case it has the power of momentarily becoming *one* with its victim. It is in " sympathy " with it, so that there are not two organisms, but two activities within one organism. This supposition would account both for the accuracy and the small range of actions that are possible Instinct, then,

works organically ; it does a few things supremely well ; but it fails when an unexpected element enters into the situation.

The average surgeon, working intelligently and by means of his general knowledge of anatomy, probably never performs an operation with such skill as that shown by the solitary wasp. But, on the other hand, he is never so entirely nonplussed by variations in the situation. He is working intelligently and not instinctively, and the distinguishing characteristic of intelligence is its adaptability, its power of grasping the *general* element in a situation and relating it to past experiences. This power seems to have been purchased at a great cost, and its acquisition has meant the partial loss of the characteristic in which instinct excel —that of perfect mastery over a few special situations intimately connected with life processes.

Of course, there are surgeons who seem to combine the power of grasping the general element in a situation with an immediate " feeling " for the individuality of the organism with which they are dealing. These are the born surgeons, who work both intelligently and instinctively : that is, they work intuitively. According to Bergson, intuition is instinct become conscious of itself. It is not opposed to intelligence, but it transcends and completes the findings of intelligence.

> We do not obtain an intuition from reality [says Bergson]— that is, an intellectual sympathy with the most intimate part of it —unless we have won its confidence by a long fellowship with its superficial manifestations.[1]

It is this close connection with the findings of the intelligence that differentiates Bergsonian intuition from the intuition of the poet. Bergson constantly appeals to concrete science in preparation for the process of intuition.

[1] *An Introduction to Metaphysics*, p. 77.

And the result is that he is not only able to tell us vaguely, as Wordsworth did, that there is in the universe

> A motion and a spirit, that impels
> All thinking things, all objects of all thought,
> And rolls through all things :—[1]

but he is able to describe along what different lines the spirit has expressed itself, and how it has fared in its encounters with opposing forces. His vision of the process of evolution is characterized by an accuracy that could only have come from the consideration of relevant scientific data, and it has at the same time all the charms and audacities of a work of art. It is therefore not only fundamentally satisfying, but it is rich in suggestive detail.

[1] *Tintern Abbey.*

CHAPTER V

Man's Place in Nature

THE whole process of evolution is a drama of creation. It is true that there have been frequent set-backs in the evolution of organic life. Again and again, the original creative drive has encountered such resistance that it has failed to win through in some directions. Waste products have been relentlessly thrown aside, and vital impulses have sometimes been made captive by the very mechanisms which they themselves have created as instruments of liberty. But the original creative impulse does not confine itself to one path or to one mode of expression. If it has failed in some directions it has succeeded in others. In the case of the vertebrates and the arthropods it has gone on conquering and to conquer ; and in man it has at last achieved a unique success. In him it has defeated the opposing forces of automatism, and has won for itself a measure of real freedom.

Man is thus in a very real sense " the consummation of this scheme of being, the completion of this sphere of life." He is the *raison d'être* of evolution. Not that he is to be regarded as an *end* which was implicit from the beginning. That supposition would be equivalent to a denial of creative, as opposed to mechanical, evolution. According to Bergson, evolution is neither a finished nor a predetermined process. It is essentially and unceasingly creative. Man was a new creation. There was nothing inevitable about his appearance. Rather the creative impulse took a sudden and unpredictable leap from the lower vertebrate animals to man, and thus made an unparalleled advance in its high adventure.

How, then, is man differentiated from the lower vertebrates ? What constitutes his unique success ? Like them he concentrated on a life of action, and yet it was only in his case that the chain of necessity was broken.

In the first place he manufactured instruments to widen the sphere of his activities. He invented an almost illimitable number of motor mechanisms, and thus divided automatism against itself. His mind possesses this remarkable feature, says Bergson, "that it can oppose to every contracted habit another habit, to every kind of automatism another automatism, so that in man liberty succeeds in freeing itself by setting necessity to fight against necessity."[1] The driver of a primitive steam-engine had no opportunities for relaxation. His whole mind was engaged in the difficult task of driving, and he was thus in a sense the slave of the machine. But when the engine was improved and more mechanical devices were added the driver was so much less its slave. The increase in the number of automatic adjustments left him freer to think his own thoughts and to be himself. So it was in the evolution of man. He not only succeeded in inventing motor mechanisms as did the lower vertebrates, but by inventing them in sufficient complexity and number he succeeded in remaining free to use them as it pleased him.

The high development of his social life was another factor which separated him from the lower animals. By means of social intercourse efforts can be stored, and can not only be appreciated by the average, but they can also be utilized by the exceptional members of the group as "stepping stones to higher things."

Man is also distinguished from the lower animals in regard to his use of language. It is probable that without language his intelligence would have been riveted to material objects; but its invention provided him with an immaterial body, in which consciousness could incarnate itself. New opportunities of creation and greater freedom of choice thus became possible to him.

Perhaps Bergson has not sufficiently realized the full

[1] *Life and Consciousness*, p. 40.

significance of the development of language in man. By its use his time span has been increased. He is able to look forward further into the future, to define ends, and to work towards ideals; and thus his conduct is no longer entirely the outcome of the push from behind, even if that be creative, but is also influenced by the attraction of ideals. The direction which the stream of consciousness will take in any individual depends partly upon the purposes and ideas which are operative within him, as well as upon his past experience. And in his criticism of finalism Bergson does not seem to have realized how the development of language has modified the process of evolution in man, and has come to mean that ends and ideals now play a large part in determining the direction of that evolution.

To acknowledge this difference between man and the other animals does not necessarily force us to adopt the view that man is not free, or that human evolution is not creative; for the ends towards which it is driving are not fixed, but are themselves dynamic. In fact, they are indications of a more effective creativeness and a higher order of self-determination.

The developments of motor mechanisms, of social life, and of language in man are different and external signs of an internal superiority, which is such as to constitute a difference in kind between man and the rest of the animal world. All the other attempts to express the creative impulse failed, at least partially. The impetus was insufficient to overcome the obstacles. The spring was too feeble, the jump too high. Man alone cleared the rope.

Everywhere else [says Bergson] consciousness has remained imprisoned. Every other species corresponds to the arrest of something which in man succeeded in overcoming resistance and in expanding almost freely, thus displaying itself in true personalities capable of remembering all and willing all and controlling their past and their future.

Although man has thus won a victory which separates him from the rest of the organic world, and which is, perhaps, even an earnest of his immortality, there always remains the possibility of regression. The history of human civilizations suggests that life may only too easily become mechanized instead of more abundant. So frequent is this danger of the mechanization of life, that human society has evolved a social reprimand for those of its members who exhibit slight tendencies in this direction. That reprimand is laughter.

In his essay on *The Meaning of the Comic* Bergson works out in detail this interpretation of laughter as a social corrective for inelasticity. The frock-coated, top-hatted, immaculate man who slips on a piece of orange peel and suddenly loses his dignity, but without being seriously hurt, is greeted by the laughter of his fellows. The absent-minded man who begins to dress for dinner and by force of habit finds himself in bed is similarly treated. The very fat man may strike his neighbours as comic. In fact, any inelasticity of body, or mind, or character may be reprimanded by the light hand of laughter.

> The comic [says Bergson] is that side of a person which reveals his likeness to a thing, that aspect of human events which, through its peculiar inelasticity, conveys the impression of pure mechanism, of automatism, of movement without life. Consequently it expresses an individual or collective imperfection which calls for an immediate corrective. This corrective is laughter, a social gesture that singles out and represses a special kind of absent-mindedness in men and in events.[1]

It is, of course, true that humourists and comedians may make use of the laws which govern the response of laughter for other purposes than those of social correction. The cinematograph film which depicts the nightmare struggles

[1] *Laughter*, pp. 87–8.

of a man with objects which normally are inanimate, but which on this occasion seem possessed of devils, amuses the audience by exhibiting to them the man's failures in adaptability. But all suggestion of a social corrective is necessarily eliminated by the artificiality of the situation. Still, at its root, laughter seems to be a means that human society has evolved of guarding the treasure of mobility and freedom, which man alone has won in the struggle against necessity.

The danger of the mechanization of human life may, however, be so great or so widespread that it cannot be corrected by the light hand of laughter. Just as the vegetable renounced consciousness in becoming enveloped in a membrane of cellulose, and the mollusc was condemned to a state of torpor by enclosing itself in protective armour, so it sometimes seems that in these later days the freedom of man is in deadly peril of being choked by the wealth of his material resources. " How hardly shall they that trust in riches enter into the Kingdom ! "

The development of modern science and modern industry has certainly meant a prodigious increase in man's material resources, that is, in his body; but it has, at the same time, augmented the danger of mechanization. It is becoming increasingly difficult for his soul to dilate to the dimensions of his body. He is sometimes in danger of becoming a slave to his own machinery, of being caught, as in a trap, in his own systems of organization. In particular, the group methods of protection which he has adopted sometimes threaten to destroy the very creativeness to which they owe their origin. On such occasions life may have to make a supreme effort to avoid a tragic consummation. It is in terms of such an explosive revolt against the mechanization of human life that Bergson finds his interpretation of the significance of the Great War.

Viewed from the standpoint of evolution the war was a

conflict between mechanism and life. On the one side was a nation that had failed in its earlier devotion to poetry, art, and philosophy, and had concentrated instead on material success, and especially on military and industrial efficiency : so much so that the people tended to fall into the uniformity of *things* instead of raising themselves to the richer and more harmonious diversity of *persons*. On this side, then, were tendencies towards the mechanization of spirit. But on the other side, although there was very imperfect material organization, there were hopes of creating more liberty and ideas of tolerating more variety—sure evidence of forces tending, on the whole, to the spiritualization of matter. On the one side, Bergson saw " force spread out on the surface " : on the other, " force in the depths." On one side, mechanism, the manufactured article which cannot repair its own injuries : on the other, life, the power of creation, which makes and remakes itself at every instant. On one side, that which uses itself up : on the other, that which does not use itself up. It is therefore not surprising that to him the issue was not in doubt even in 1914. " Time," he said, " is on the side of the Allies. The issue of the struggle is not doubtful . . . Have no fear."[1]

The permanent value of Bergson's interpretation of the war is not, however, to be found in this prophecy of victory to the Allies, but rather in the warning which his view contains concerning the danger of mechanization resulting from undue interference with individual liberties by group organizations. It is not his indictment of modern Germany that is illuminating, but the fact that his view throws a certain light on the problems of the future. As in organic evolution, so in human society, the creative impulse or the forces of life are ever making for more freedom and variety ; but they are still opposed by the powers of neces-

[1] *The Meaning of the War* (English translation, 1915), pp. 37–8.

sity and death. It is true that the individual, *qua* individual, has evolved an organization which makes a measure of freedom possible to him; but man is only in process of winning a higher *social* freedom.

There are two problems that remain to be solved: first, what kind of group-organization is most desirable in order that there may be the maximum of individual freedom consistent with the well-being of the group? and secondly, what kind of interrelation should there be between groups, particularly national groups? Much thought will have to be expended, many experiments tried, and many sacrifices made, before working solutions of these problems will be obtained. But there are two things that Bergson emphasizes that it would be well to keep in mind: first, that there is a creative urge within each individual and that individuality is a thing of absolute worth; and secondly, that within each living group that has a history, there is a similar powerful drive which should be respected.

There are hopeful signs to-day that man is preparing to face these new problems, that he is creating new means of ensuring liberty. Witness, for example, his great experiment of the League of Nations. He may fail, temporarily, in his high adventure, but the truth remains that whenever he makes efforts to ensure more abundant life for individuals or groups, he is working in line with the great processes of evolution. He is inspired by the same creative impulse. And he need have no fear, for time is necessarily on his side.

CHAPTER VI

Bergsonianism. The Complement of Modern Science

THE history of philosophy in the past presents a striking contrast to the history of science. Modern science has developed continuously, almost steadily, for the last two centuries. Its history has been one long romance, the romance of man's conquest of the forces of Nature by the discovery of her laws. Each worker in a particular field has been able to enter into the knowledge accumulated by his predecessors ; and, by building upon it, he has perhaps been able to add to it. But in philosophy instead of continuous progress there has been a perpetual return to foundations. Almost every philosopher seems to find it necessary to criticize the findings of earlier workers, to undermine their conclusions, and to begin again at the beginning. Consequently, there are almost as many philosophies as philosophers. And the question naturally arises —is this impasse due to the utter inability of the human mind to find the truth, to grasp the real, or the thing-in-itself ? If so, then philosophy ought perhaps to be abandoned. But can it be abandoned ? Every man seems to have a philosophy of life. Even if he decides that it is not in the nature of man to know reality, he has a philosophy. It is true that it is negative, but it is none the less a philosophy for that. He holds that reality is of such a nature that it cannot be grasped by the limited intellect of man. And what is this but a theory of the nature of reality—a philosophy ? Are we, then, to conclude that man is eternally condemned to philosophize, to theorize on the meaning of the universe, and yet has no power adequate to the task of interpretation ? Is he, in his search for the real, like those maidens in Tartarus, condemned for ever to carry water in a sieve ?

According to the French positivist, Auguste Comte, all branches of human knowledge pass through three stages of

development: the theological, the metaphysical, and the positive. In the first stage, man seeks to interpret phenomena in terms of persons. For example, the Algonquin Indians explain eclipses by supposing that the sun is a man and the moon is his wife. There is an eclipse of the sun when he holds in his arms the little boy born of the marriage; and there is an eclipse of the moon when she, in turn, embraces the child. This interpretation belongs to the first stage of development, the theological. But as human knowledge progresses the theological interpretation is superseded by the metaphysical, where an explanation is sought in terms of such entities or "shadows of spirits" as force, attraction, and affinity. In the third or scientific stage, man gives up the vain search for causes and concentrates on the discovery of natural laws.

According to Comte, then, as man's knowledge progresses, he gradually gives up the quest of philosophy and learns to content himself with positive science. And the march of science has been continuous simply because its methods alone lead to positive and certain knowledge. The findings of the theologian and metaphysician are over-anthropomorphic, and will gradually be eliminated in the history of thought.

It is not difficult to see to what this position might lead. It drove Haeckel to deny the existence and personality of God, and the free will and immortality of man. It led Huxley to the sad belief that progress in knowledge would inevitably mean the elimination of freedom and spontaneity from the universe.

> Anyone [he says] who is acquainted with the history of science will admit that its progress in all ages meant, and now more than ever means, the extension of the province of what we call matter and causation, and the concomitant banishment from all regions of human thought of what we call spirit and spontaneity.[1]

[1] Huxley: *Collected Essays*, vol. i.

Indeed, nineteenth-century science, as a whole, tended to a belief in universal mechanism, to the conception that the universe is a huge machine, governed by immutable laws and therefore entirely predictable. Even man himself, the last citadel of spirit, would be conceived as a kind of marionette, responding automatically to internal and external stimuli, every action being predictable if only all the conditions and circumstances could be known. His consciousness would be a kind of phosphorescence or bye-product resulting from certain complicated movements of the molecules in the grey matter of his brain. And there would be no room for freedom anywhere. If the present positions and movements of all the atoms could be known, all that has happened in the past, and all that will happen in the future, could be calculated. There would be no fact of history, no secret of the past, which could not be revealed ; and no future event which could not be anticipated. For example, it would be possible to calculate the number of hairs that were on the head of Julius Cæsar when he landed in Britain, and to predict the precise conversation that would be taking place at any spot between any two people in the year 2000. The universe is conceived as given *en bloc*, and the apparent duration of things is simply due to the limitations of man's knowledge. Such was the doctrine to which nineteenth-century science seemed to lead.

It is, therefore, not surprising that, as Huxley said, this view " weighed like a nightmare on many of the best minds " of his day. Many must have felt inclined to cry out in anguish of soul :

> Great God! I'd rather be
> A Pagan suckled in a creed outworn ;
> So might I, standing on this pleasant lea,
> Have glimpses that would make me less forlorn ;

Have sight of Proteus rising from the sea ;
Or hear old Triton blow his wreathèd horn.[1]

And others clung to the belief that somehow or other the scientists had got hold of things from the wrong end. For, curiously enough, even when the universal mechanist has won an argumentative victory there appears to be a natural revolt in the minds of most men against his conclusion ; an intuition, it may be, that his interpretation is inadequate ; a faith in the spirituality of the universe and the spontaneity of man which asks no leave of intellectualist logic. And one of the most serious problems that confronts our age is that of the relation between the findings of science and these more immediate beliefs in the spirituality of the universe. Are the two fundamentally irreconcilable ? Or can their apparent opposition be explained away ?

Bergson attacks the problem by endeavouring to examine the aim, methods, and sphere of science. He points out in the first place that the purpose of science is " not to reveal the bottom of things, but to furnish us with the best means of *acting* on them." Originally we only think in order to act, and therefore a superficial consciousness developed first in man. " Speculation is a luxury, but action is a necessity " ; and it is out of this need for action that modern science has arisen. " We are geometricians," says Bergson, " only because we are artisans." We are scientists concerned with finding regularities in nature, and expressing them in convenient and symbolic terms, because we need to find the best means of *acting* on our environment. Scientific knowledge is, therefore, not entirely disinterested, but is rather relative to our actions. Science proceeds by way of analysis. Its method is that of the intellect, and all that Bergson has had to say in criticism of

[1] Wordsworth : *The World is Too Much with Us.*

the intellect applies to the findings of science.[1] It ignores the rich individuality of things, and is content to classify them according to some aspect which it is useful to consider. It proceeds by abstraction.

For example, the intellect affirms that two and two make four ; and this is, of course, true provided that no other factor than the number relationship comes in. But suppose that there is a pressure of two—say, two atmospheres—in a boiler, and suppose that the pressure be increased by another two. In every specific case it does not necessarily follow that the resulting pressure will be four. There may result a burst boiler: that is, there may be a change of quality which disturbs the purely quantitative relationship.

"It is the last straw that breaks the camel's back." In other words, the effect of the last straw may be essentially different from the effect of the last straw but one. There comes a point where the result is not merely additive, but is different in kind.

The mathematician, as such, is not concerned with such qualitative differences as broken backs and burst boilers : he is concerned with abstract quantitative and spatial relationships ; and is consequently dealing with an artificial simplification of the real. His symbols may be equivalent in practice, and certainly have the advantage of being more easily manipulated, but they do not constitute a complete, nor a disinterested, view of reality.

In isolating its systems, mechanistic science assumes that time has no effect on them. This is not a serious distortion of the facts so long as the intellect is dealing with the fixed, the static—in a word, with matter. But when it comes to deal with personality, life, and spirit, however useful its devices may be for practical purposes, it remains true that the substitution of fixed symbols for changing realities is

[1] *See* Chapter I.

fundamentally unjustifiable ; and the elimination of duration is nothing less than a positive distortion of reality. " It is of the essence of science," says Bergson, " to manipulate signs which it substitutes for objects themselves." By the use of fixed symbols the scientist substitutes for realities changing in time artificial recompositions or mosaics spread out in space. For example, the belief in universal mechanism arises from mistaking such an artificial system for the changing reality, which it only partially represents.

Bergson is therefore led to set limits to the sphere of science. The method of the intellect is adequate for the apprehension of the static, of matter ; but alone it is insufficient for the appreciation of durations. Like the cinematograph operator, it takes views of a moving scene. However many snapshots be taken, and however small may be the intervals of time between them, spread out in space, they would bear little resemblance to the moving reality. It is necessary somehow or other to restore the movement. So it is in the apprehension of a duration, of that which develops in time. Something more than intellectual analysis is needed : the movement must be reintroduced, and the thing be apprehended in its flowing through time. And this is only possible by the method of intuition.

If man, then, wishes to gain a disinterested view of reality, as it is in itself, and not merely relatively to his actions, he must grasp it intuitively *sub specie durationis*. There is, therefore, need for a philosophy to crown and complete the findings of science.

The mistake that many philosophers have made in the past is that, in the main, they have been using the wrong method. They have been seeking reality through the intellect, in fixed ideas and concepts. They have been taking views of it from the outside, or trying to find it by manipu-

lating other people's views of it, when they ought to have been within it grasping it by intuition. It is as though those maidens in Tartarus had possessed pitchers, but had chosen to try to carry the water in sieves. The sieve will do for pebbles, but not for the flowing water. The intellect will do for matter, which is static ; but it will not do for the flowing reality, life, or spirit. That can only be grasped by intuition.

A philosophy which uses the method of intuition is then complementary to science. It is influenced in its development by the discoveries of science. It is a common misconception to suppose that Bergson attacks science in the name of immediate feeling. What he does advocate is a continual return to the intuition of concrete durations in order to test whether the concepts, in use for their description, respect the natural articulations of reality. To him philosophy is not in opposition to, but is "the true completion of science." But it should never be a mere summary or mosaic of scientific knowledge ; for duration should be reintroduced by intuition.

Of course, the findings of intuition are at present very incomplete. But if the new method becomes the orthodox method of philosophy, it is surely not improbable that it may mean the rebirth of metaphysics, just as the adoption of the experimental method meant the rebirth of science.

> Either I am deceived [says Bergson] or the future belongs to a philosophy which . . . will be gradually perfectible, open to corrections, to retouchings, and unlimited amplifications : a philosophy which will no longer pretend to have reached a solution of mathematical certainty (which mathematical certainty, in such a case, must always be deceptive).[1]

Already the use of the new method has resulted in the restoration of *freedom* to man and *life* to the universe. It

[1] *Life and Consciousness*, pp. 25–6.

has shown that a spiritual interpretation of creation is not inconsistent with modern science, but is rather its crown and completion. It is surely no exaggeration to say that this vision of a reality which is always active, creative, wherein the word of power is not *law* but *life*, lights with its splendour the patient discoveries of science. It lifts the awful weight which determinism and universal mechanism had laid upon man's spirit. And, more than all, it frees him from bondage to intellectualist logic. It shows him a more excellent way of seeking truth ; and, by so doing, it gives him a living spiritual reality instead of a post-mortem dissection of the universe.

PART II: *BERGSON'S PHILOSOPHY AND NEW IDEALS IN EDUCATION*

CHAPTER VII

The Revolt Against Intellectualism

ON its negative side the philosophy of Bergson is a revolt against intellectualism. Bergson has shown, perhaps more clearly than any other writer, that the intellect of man, like the instincts of ants and bees, or the chlorophyll function of plants, has been evolved to serve the purpose of life.[1] It is an instrument which life has used in its struggles against necessity. Life, then, contains and surpasses intelligence. And first things must be put first. Intelligence is for life, and not life for intelligence. We do not live in order to think ; we think in order to live.

Bergson goes further than this. Not only has the intellect been evolved to serve life, but it is especially adapted for the understanding of matter, with which life is in conflict. And therefore, although its findings may be of great practical use, they will never in themselves lead to the comprehension of such durations as personality, life, and spirit.[2] The intelligence of man is not disinterested ; it is cast in the mould of action ; it is turned towards matter and away from life. It is suitable for the apprehension of the fixed, the static ; but it is inadequate to the task of appreciating living creative evolutions.

Thus Bergson limits the function of the human intellect by two distinct lines of criticism. He shows, first, that the intellect is the servant of life, not its master : and, secondly, that it is characterized by a natural incomprehension of life itself, the very reality to which it owes its origin.

In the educational world to-day there are signs of a revolt against intellectualism, similar in kind to Bergson's, but naturally much more vaguely directed. It is being increasingly realized that education in the past has been too

[1] *See* Chapter IV. [2] *See* Chapters I and VI.

narrowly intellectual : it has too frequently been confused with mere book-learning. Even on the theoretical side there have been tendencies, especially in the early nineteenth century, to lay too much emphasis on the acquiring of book-knowledge or on training in the art of thinking, and too little on training in the much more important and comprehensive art of living. In some cases, even when the formation of character has been considered as the end of education, the salt of truth has lost its savour by being combined with the view that virtue is knowledge. For example, Herbart believed that if a child could be given the right *ideas* or a harmonious view of the universe he would possess the good will, and therefore have the secret of the art of living. The main business of the teacher was therefore to see that the right ideas were supplied in the right order. He was to " complete the circle of interests," to give his pupil " an æsthetic revelation of the world " ; and conduct would take care of itself. But modern educationists are realizing, partly as a result of their own practical experiences, and partly on the evidence supplied by modern psychology, that there are powerful drives of conduct *below* the threshold of consciousness. There are living impulses determining character which are less explicit, but which lie far deeper and have more impulsive force, than the *ideas* possessed by an individual. His inherited fears and aversions, his appetites—these are the drives which not only determine conduct, but which affect the acquisition and evaluation of *ideas*.

McDougall and Shand, Freud, Jung and the psychoanalysts, all reinforce the Bergsonian view that life surpasses intelligence, and that there are more living forces at work within an individual than those of which he is explicitly conscious. Indeed, the unconscious living impulses may even be contradictory to the more explicit ideas and beliefs of the individual. Skill in the art of living

may therefore not follow upon merely intellectual knowledge, not even upon knowledge of the laws of ethics, and still less of Latin grammar. That is why Browning's grammarian, even when he moves us to admiration by his strength and devotion, moves us also to pity ; for he made a tragic mistake : he was guilty of a great refusal when he " decided not to *live*, but *know*." Of course, such knowledge is valuable, but it is not an end in itself. " I have come," said the greatest of all teachers, "that ye might have *life*, and that ye might have it more abundantly." Not more knowledge, not even more intelligence, but more abundant life ! That is the first aim of education.

It is, of course, true that our traditional system of education—especially in its higher branches—appears in the main to have been constructed on the assumption that the acquiring of book-knowledge, or at best increase of intelligence, is the end of education. And such a system, once become traditional, dies hard. There are still secondary schools which are run as though proficiency in the subjects taught and examination successes were the be-all and end-all of education. Examinations are certainly useful as tests, and they do no harm to the healthy average pupil, provided that they are taken in his stride and are regarded as a means to an end. But if they are regarded as ends in themselves, towards which the course must lead, they are calculated to reduce originality to a minimum, to repress individuality, and even to lead to an entirely mistaken conception of life itself. Unfortunately there are still a few schools that are prepared to devitalize human beings in order that the vacant spaces on the honours boards may be filled, and lists of examination successes appear in the local newspapers. There are schools which by the strict imposition of silence rules during school hours deny to boys and girls natural opportunities for social intercourse, and by the extreme rigidity of the curriculum deny them opportunities for

following their own interests ; and, to crown all, by the imposition of excessive homework deny their pupils the fundamental right to live the full family life. Those who are responsible for them forget that knowledge is the servant of life, not its master, and that the best preparation for life is living. The boys and girls in such schools are not being trained to *live*, but to *know*, and very frequently to *know subjects* which are so out of relation to reality that they appear to the pupils to be meaningless and consequently are forgotten as soon as learned. Even the knowledge that is doled out to them is dry bones. The only hope in such cases is to be found in the fact that individuality is so hard to crush, and life is so explosive, that many of the pupils will pass through such schools and retain their vitality in spite of their education. " I am what I am," said Bernard Shaw, " not because of my education, but in spite of it."

Notwithstanding exceptions of this kind, there are signs that there is a growing revolt against a narrowly intellectualist view of education, not only among educational theorists, but also among practical teachers. It is being increasingly realized that education is not synonymous with book-learning. And teachers are at last being emancipated from slavery to the printing press.

The three R's are taking their right and subordinate place in kindergarten and infant school work. The children are now allowed to play, to come into contact with one another and with real concrete things, to study natural objects, to do and to make things ; in a word, they are allowed to *live* : and in this scheme of life, reading, writing, and arithmetic take their natural and subordinate place.

The elementary schools, too, have been partially delivered from that concentration upon mere book subjects which characterized much of their work in the days of " payment by results." The introduction of handwork

into the curriculum, and the increasing recognition of the educational value of the arts and crafts, have done something to free elementary education from domination by the old monkish ideal. But there is still a long way to go. We have but to compare the training of the average elementary school with that given by another educational agency—the Boy Scout movement—in order to realize how intellectualist and artificial much school work still is. The boy scout is a member of a community. He is called to live a life with risks, adventures, and responsibilities. And while participating in that life he comes into direct contact with reality itself. He is not primarily concerned with *subjects*: that is, with adults' views of reality; but he is compelled to face real concrete problems. Of course, he may have to seek knowledge from men or books in order to solve these problems; but he is never forced to obtain it out of relation to life. The scout whose camp duty it was to prepare a rabbit for dinner, and who, in his ignorance, started to cut the hairs short with a pair of scissors, had eventually to seek knowledge of the scout-master. But he had felt the pressure of the concrete problem before the knowledge was vouchsafed to him, and, consequently, when it was found it was full of meaning. To the scout, then, the acquiring of knowledge is subordinate to the living of a life and to the fulfilling of responsibilities towards a community. Whatever criticisms may be urged against the movement, this, at least, is true: that it is based on the sound educational principle that the best preparation for life is participation in life—a principle which so far has been very imperfectly realized in the conventional school system.

If this principle had been recognized, school work would not have been so artificial and so meaningless as it frequently has been in the past. We should have been saved from placing our snapshots of reality between the minds of the children and reality itself. We should have been forced

to realize the futility of spending time and energy in attempting to teach *subjects* which have no relation to the living experiences of the learners. We should have been saved from imagining that education consists in the mere learning of subjects—such as Geography, History, Latin, and Mathematics—which frequently are so artificially divided into watertight compartments that they appear to the learner to have no bearing upon life. "What is the Panama?" asked an inspector after he had given a class an arithmetical problem to solve, involving the question of exports to the Panama. And he was met with blank looks and obtained no reply. "It's geography," interposed the teacher, and immediately hands shot up from all quarters of the class. The meaningless mechanically acquired knowledge was available when the arithmetic compartment was left and the geography compartment entered. Such knowledge is mere parrot knowledge, and serves rather to deaden the mind than to illuminate the problems of life. This is why the American educationist, Dewey, insists that the division of the curriculum into subjects) is only justified if the pupil can see the relation of each subject to life; and he advocates a system of early education in which the subjects separate out from, and centre round, concrete occupations.

An interesting experiment has recently been tried in this direction by Miss Isabel Fry.[1] Miss Fry has for some years successfully run what might be termed a farm boarding-school. The school carries on the business of dairy farming, and actually supplies the neighbourhood in which it is situated with milk, butter, and eggs. The practical occupations in which the children engage are, roughly, those of distributing the milk, separating it for butter, making butter, feeding the hens and farm animals,

[1] See *Report of the Conference on New Ideals in Education* (1918), pp. 127–130.

and doing housework and gardening. Time is also set apart for more cultural studies : but the main idea behind the experiment is that, first of all, children should be allowed to live healthy, purposive lives. In the fulfilment of their practical duties under the guidance of sympathetic teachers they will, of course, acquire knowledge—knowledge of persons, of animals, of natural processes, of scientific facts, and of number relationships. For example, they will learn to be accurate and to keep accounts through measuring and selling the milk. But the acquiring of knowledge is of secondary importance. The pupils are not being trained to be farmers, but rather to prepare themselves for their future responsibilities by living, and contributing to, a true purposive community life. They are not primarily engaged in learning subjects, or in studying other men's views of reality. They do not stand aside from the current of life, playing with counters and symbols. They are face to face with reality itself, and consequently they have opportunities of learning to live.

The revolt against the division of the curriculum into subjects of study has been carried to extremes by some modern thinkers, who have failed to realize that different degrees of abstraction are suited to different stages of development. It will probably be generally recognized that there comes a time in the history of most boys and girls when the systematic study of subjects is desirable, provided that those subjects are not out of relation to life. Indeed, the division into subjects is suited to the growing powers of abstraction of the pupils and does not necessarily involve unreality. At secondary school age, boys and girls are naturally able to make wider excursions from real concrete objects without losing connection with them ; and, consequently any attempt to make their training occupational will not lead to more, but to less, abundant life. At this stage, intellectual interests should be broadened and the

work become more systematic ; but the training of the intelligence should still always be for the sake of fullness of life. Bergson never denies the value of intelligence for life. And any system of education founded on the principles of his philosophy would have to arrange for opportunities for the full intellectual development of each individual. But it would not have to stop there ; for life surpasses intelligence.

Fortunately, just as the universities have been saved from the full effects of their over-intellectualist tradition by the fact that many of their students are in residence, and therefore have opportunities to evolve a community life of their own, so the secondary schools are beginning to be delivered from slavery to the examination bogey by the increasing emphasis which is being placed on social life. In many modern secondary schools some measure of self-government has been given to the pupils. They are allowed to be responsible for the making of rules and the maintenance of order within the community. They manage the games, the clubs, the charities, the Christmas parties, and other social functions of the school. In short, they have some of the privileges and responsibilities of community life : they are being taught to live.

Of course, much remains to be done. Very frequently, even in progressive schools, there is too wide a gap between the social life of the pupils and their systematic class-room training. The social functions of a school often appear to be outside its main business. But the playing of games and the introduction of group work in many subjects have made it possible for a very real social training to be given during school hours. And, on the other hand, the introduction of handwork into the ordinary curriculum, and the use of the drama in the teaching of literature and history have made it possible for class-room work to minister directly to a full community life. For example, if the

pupils of a school are giving an entertainment it is easy to arrange for the programmes to be made by the art class, and the cakes in the cookery lesson : it is possible for the play that is being presented by any form to have a bearing on its systematic literary or historical work, and for the properties employed in its production to be made during the time devoted to handwork.

But even if efforts of this kind are made to reduce the gap between social life and systematic study, two existing conditions will still stand in the way of the complete deliverance of modern secondary school work from unreality : first, that of the comparative rigidity of the time-table, and secondly, that of the artificiality of the curriculum. The time-tables of most schools, both elementary and secondary, are not elastic enough to meet the needs of a living community, or those of living individuals. And, in addition, secondary school teachers have not yet solved the problem of the choice of subjects of study and of the relation that should exist between them. They are suffering both from an over-burdened curriculum and from over-specialization. And, consequently, the subjects studied frequently appear to the pupils to have no bearing upon life. They are dead and meaningless; they throw no light upon the nature of reality ; they give no guidance in the art of living.

We shall try to show later how the more positive sides of Bergson's thought, particularly his view of human personality and his doctrine of intuition, help us towards a solution of these and other fundamental problems. So far, the discussion has been limited to the negative side ; but it has already become clear that Bergson's philosophy emphasizes the need for working out a broader conception of education, in which the acquiring of book-knowledge and the training of the intellect shall be subordinated to training in the art of living. Each individual must be educated

to live; not merely to gain a livelihood, but to attain that fullness of life which becomes possible in so far as he succeeds in expanding freely and in entering into right relationships with reality itself.

CHAPTER VIII

The Development of the Individual and the Problem of School Government

IF it be admitted that the chief aim of education is that of more abundant life for each individual, it might be expected that Bergson's philosophy, which is essentially a philosophy of life, would throw light on educational problems. It is, of course, true that no mere theory of life will ever lead to the solution of the many practical educational problems with which the modern world is confronted. There is, and will be, a continual need for direct experiment. But from a general theory of life there can be deduced principles which will give guidance in the choice and carrying out of experiments, and will also help to bring harmony into educational practice.

Bergson's view of human personality is particularly illuminating on this score. He holds that in each living organism there is an *élan vital* which is similar to, and derived from, that dynamic urge which expresses itself in the whole process of the evolution of life.[1] And he shows that human consciousness is a dynamic flux, ever enriching itself by experience, gathering up the past, and driving towards the future.[2] It is free and creative when it is most itself. In every individual, then, there is a supra-mechanical drive which directs his development from within; and consequently, if he is ever to realize himself fully, he must be allowed freedom to expand and opportunities to create.

At the outset, it is interesting to notice that this view—that there is a life urge within each individual—finds considerable support among modern psychologists. The mind of man is no longer regarded as a passive receptacle of ideas or a blank sheet on which impressions can be made as upon wax. It is generally recognized that even from the be-

[1] *See* Chapter IV, pp. 33–6. [2] *See* Chapter III, pp. 26–32.

ginning there are powerful and dynamic forces at work directing its development from within.

According to McDougall,[1] every individual starts with a certain number of ready-made instincts, that is, certain inherited tendencies to *know* certain objects, to *feel* emotions in regard to them, and to *react* accordingly. For example, a tiny child will sometimes run and hide when he sees a bear for the first time. This impulse is not the result of experience. He has had no previous experience of the animal in question. But there is within him an inherited tendency to notice the bear, to feel fear in its presence, and to take refuge in flight. It is these instincts, such as curiosity, pugnacity, self-assertion, self-abasement, and imitation, which determine the development of individuals; and McDougall does not hesitate to regard them as so many forms of the life urge.

In addition to the instincts, Drever[2] recognizes a class of simpler dynamic forces within the human mind. These are the appetites, of which the most important are hunger, thirst, the desire for sleep, and the sexual appetite. And it is these, with the instincts, which at the early stages direct and control conduct.

The psychology of the nineteenth century had much to say of sensations and impressions, but it said little about appetites and instincts. We are only just beginning to understand how these primitive impulsive forces direct the attention, and, consequently, partially control the acquiring of experience. The mind does not receive impressions passively. It selects and discriminates, attending to some things in the environment to the exclusion of others. And it is the appetites and instincts that in the early stages determine this selection. They are the driving forces of the mind.

[1] W. McDougall: *Social Psychology* (1908).
[2] J. Drever: *Instinct in Man* (1917).

Further, it is doubtful whether these dynamic forces cease to exist even if they are denied expression. Freud, Jung and other psycho-analysts maintain that if these impulses are repressed they may cease to exist to consciousness, but they remain in the realm of the unconscious, surreptitiously influencing thought and conduct and only revealing themselves directly in the dream-life of the individual. It is true that whereas Freud is satisfied with a mechanistic interpretation of human personality, Jung definitely accepts the Bergsonian position. But, in general, the work of psycho-analysts has served to show that whatever else the mind of man is, it is not a mere fabrication of ideas. It cannot be built up from outside without regard to its own living impulses. If it is to grow in health it must develop from within.

There are signs that the educational world, too, is beginning to realize that the development of each individual should be allowed to come from within, and that the life urge that is at work within each child should be respected.

"Freedom for each to conduct life's adventure in his own way and to make the best he can of it," says Professor Nunn, "is the one universal ideal sanctioned by nature and approved by reason."[1]

On all sides it is being recognized that education

> Rather consists in opening out a way
> Whence the imprisoned splendour may escape,
> Than in effecting entry for a light
> Supposed to be without.[2]

The real difficulty arises when educationists begin to try to put this principle into practice. The conditions under which they work and the methods employed by

[1] Nunn: *Education: its Data and First Principles* (1920), p. 9.

[2] Browning: *Paracelsus*.

many parents in the management of their children at first militate against the success of any experiments in self-education. If parents could only be persuaded that from the beginning the life urge of each individual child should be respected, it would make it easier for teachers to act on the same principle. But few mothers can resist the temptation to treat the individual as a type. The baby is propped up at a certain age because it "ought" then to be sitting up. Yet it is obvious that if it were strong enough it would get up itself. When all due preparations have been made by nature the impulse will come from within; and to forestall this life urge, even in a simple case of this kind, is to put an unnecessary strain on the child. Similarly, to impede the natural movements of a little child by tight clothing, or by any other means, is a case of repression of the life urge, and is calculated to have a devitalizing effect upon him. What is true of physical growth is equally true of mental development. The life urge should be respected, neither being forestalled nor repressed.

Perhaps the greatest contribution that Dr. Montessori has made to modern education is that she has shown that this principle can be applied to the problem of infant school work with notable results. She has invented a range of "didactic apparatus," which the children are allowed to use freely. By their own efforts to perform the tasks involved in the use of the apparatus they are gradually led to gain control of their bodies and to use their senses with discrimination. They also teach themselves the elementary arts of reading, writing, and arithmetic. They are always allowed to choose their own tasks and to work at their own rate; and they move about the room freely. They are under the supervision of a teacher, who gives guidance when it is required but whose aim it is to reduce interference with individual development to a minimum. The children are not all expected to have the same interests,

nor to progress at the same rate along the same paths. Each is allowed to develop from within.

Of course, there is discipline. The apparatus itself is disciplinary ; but the important point to notice is that each child has a *real*, though limited, *choice* of occupations ; and, therefore, when the choice is made the discipline is self-imposed. That is why it is so effective. But side by side with the self-imposed discipline of work there is the social discipline that comes from being allowed to hold intercourse and to co-operate freely with others. Indeed, the striking thing about a well-run Montessori school is the atmosphere of calm orderliness which prevails. Each child is busy with self-chosen tasks ; his life urge is finding expression in work and social life. There is no bottling up of explosive forces, and consequently there is no volcanic eruption when the teacher is called away.

But it may be argued that children will be sure to idle and fritter away their time if they are allowed so much freedom. It is generally agreed by observers that " Montessori " children have greater initiative and power of concentration than children educated on the older methods. More than this, Dr. Kimmins has been able to prove by experiment that their standard of work in actual subjects, such as reading, arithmetic, and composition, compares favourably with that of children of the same age brought up on traditional infant school lines.[1] At first this seems remarkable. But adult experience goes to show that an individual has far more patience and power of concentration in the performance of a task if that task is of his own choosing. The great red-letter days in an individual's intellectual life are always those on which he ventures to follow his own living impulses. So it is with children.

[1] Kimmins : *Some Recent Montessori Experiments in England* (*Report of the Conference on New Ideals in Education*, 1915), pp. 54–68.

There will be periods of waiting, but real development always comes from within.

Many experiments on similar principles are now being made with older children. It will be sufficient to take representative examples. Perhaps one of the most interesting is that of Mr. E. F. O'Neill at Outwood and Kearsley Elementary School, in Lancashire. In this school there is very little class-teaching. The children work as individuals and not as units in a class. They are not confined to one room, but old and young have the run of the whole school, including the workshop, the reading-room, the central hall (for dancing and singing), and the class-rooms. The children are divided among the teachers, who act as their tutors, keeping a record of their work and giving guidance where necessary. This division is not made entirely according to their age, but partly according to their desires. They do not work by a fixed time-table. Indeed, there is only a minimum of compulsory work. Each child chooses what subjects he will study, plans his work in advance, and perhaps makes a work-table for himself. In any case, he keeps a record of work accomplished ; but he is always free to use his time in his own way. He can seize the opportunity to do a certain kind of work when he feels like it ; and in this way he accomplishes better work than he would if he were forced to do it at a certain fixed time and to leave off at another fixed time.

There are no silence rules, and the children are not forbidden to help one another in their work. They arrange tea parties and concerts, form committees for various objects, and thus live a real life in school. They contribute to the common good by making books or school furniture. Many of them are elected to offices involving certain definite responsibilities, such as looking after the rabbits, checking the newspapers and periodicals, or acting as " lenders " of the different properties that can be borrowed.

In general, side by side with opportunities for following their own interests, most of the children have real social responsibilities.[1]

It is not difficult to see that dangers will beset an experiment of this kind. In the first place, the task that is imposed on the teachers is a very difficult one. The children will waste time, and become aimless or, perhaps, even bored, unless by means of careful records or by sympathetic insight their tutors are able to give each individual the exact guidance that is needed. A child is not even on the way to the attainment of real freedom until he can be persuaded to discipline himself and to hold fast to his considered purposes. And to use moral suasion, at the right time and in the right way, not only requires devotion and patience, but also unusual psychological insight on the part of each teacher.

In the second place, in desiring to remove the positively repressive influences that exist under the traditional system and which frequently prevent the free development of the individual, it is perilously easy to forget that certain sides of a child's nature may remain undeveloped, not only through active repression, but also through lack of opportunity for expression. Just as a plant will not grow freely in the absence of sunshine, so a child may remain undeveloped owing to certain omissions in his environment. For example, if there is an absence of beauty, order, and harmony in his surroundings, or if there are no opportunities for the practice of silence in his school, he may be warped spiritually. But, with the possible single exception of Dr. Montessori, the newer experimenters do not appear to have realized this, and they have therefore not sufficiently considered what kind of surroundings and material are necessary to minister to *all* the potential impulses within the child. If the individual is to be left free to respond to

[1] The above description applied to the school in 1920, but I understand that certain alterations have since been made.

his environment, it becomes imperative that the environment itself should be controlled so that it presents opportunities for the satisfaction of all human needs—physical, mental, and spiritual.

Perhaps the best known experiment in which these new views are specially applied to the problem of school government is that of Mr. Homer Lane's "Little Commonwealth." The boys and girls were juvenile delinquents, and were sent to Mr. Lane to be re-educated. On arriving at the farm in Dorsetshire, and becoming citizens of the "Commonwealth," they were given complete freedom to govern themselves. They lived as a self-contained community, working on the farm for their living, receiving payment for their work, and shouldering responsibilities for the upkeep of the "Commonwealth." If any of their number did not work he was a burden to the rest of the community—he was on the rates. They made their own laws and administered them. Mr. Lane acted throughout on the belief that anti-social behaviour is usually the result of the continued repression of the vital energy, or the life urge, of an individual ; and that the first condition of re-education is that there should be scope given to this abounding energy. His experiment showed that freedom with social responsibility has power to regenerate individuals who have previously been at variance with society and with their own higher selves.

Similar experiments in self-government are to-day being tried in schools of different types. Mr. J. H. Simpson, in his book entitled *An Adventure in Education*, has described one with a form in a public school. The boys in his class were gradually encouraged to take over the functions of government. They made their own laws and administered them. A certain number of periods were set aside every week for a form court, in which offenders against the law were tried by their peers.

The main difficulty that was encountered in the working out of this experiment was due to a fact to which we have previously drawn attention, namely, that the routine work of a secondary school is artificially separated from its social life. The members of the " Little Commonwealth " were engaged in work the usefulness of which was obvious. Anyone who failed to do his share really interfered with the community life, and consequently was an offender in the eyes of his companions. But a boy who fails to learn his Latin grammar is not anti-social in the eyes of his fellow pupils. It is not to be expected, therefore, that they will naturally consider his omission a serious one.

In order to obviate this difficulty Mr. Simpson divided his form into two sections, introduced a system of marks, and pitted one section against the other. Any boy who neglected his work was thus letting his side down ; and his omission became an offence against the community. This device, ingenious as it is, clearly shows that there is something the matter with the secondary school curriculum. There should not be this great gap between school work and real life. It would be wise, therefore, at the outset to notice that in attempting to adopt less repressive methods of government in the secondary school more may be involved than the question of discipline. The problems of the curriculum and of the methods to be employed in teaching may also have to be reconsidered.

Although there are many educational experiments embodying the principle that the life urge of each individual should be respected, there is still a great need for a careful analysis of the idea of freedom in education. It has already become apparent from the experiments described that the modern apostles of freedom do not mean by it doing what one pleases at any moment. Dr. Montessori controls the environment of her pupils so that only a certain number of activities are possible. Mr. O'Neill uses moral suasion in

cases where there are serious omissions in the list of chosen subjects of study ; and he expects every individual to carry out his own plan of work. The pupil is not to give expression to every passing whim, but is to hold fast to his considered purposes.

Bergson's position would lead us to distinguish between three levels of freedom or, at least, three meanings that are attached to the term freedom. There is, first of all, that kind of *individual freedom* of which Rousseau imperfectly conceived. A child should be free to follow his own deepest impulses. He is not, of course, to do everything he wishes, nor to have everything he wants. There are momentary passing desires which are superficial and, perhaps, even alien to his real nature : and, as Bergson has clearly shown, actions that result from these are not *free*, but *caused*.[1] But there are also drives which issue from the life urge itself, and it is these which must be allowed free expression. This does not mean that there is to be no discipline. To work steadily for the fulfilment of a considered purpose, to follow the life urge within in the face of superficial attractions without, which promise quicker returns, is a discipline. And if children are not encouraged to concentrate on the fulfilment of their deepest living impulses they may remain slaves to their own wayward desires, and therefore never attain a large measure of individual freedom. Such discipline, however, to be effective must be self-imposed.

This conception of freedom would be sufficient if the individual were absolutely self-contained. But, as a matter of fact, the individual is a member of society, and, indeed, only attains to self-consciousness as a member of society. As we have seen, the human species occupies the place it does in evolution partly because man became socialized.[2] And it is not unlikely that man is now in process of win-

[1] *See* Chapter III, pp. 30–1. [2] *See* Chapter V, p. 43.

ning a higher *social freedom* which will eventually surpass and contain *individual freedom.*[1] Indeed, the two are not inconsistent. Man inherits social, as well as egoistic, instincts ; and his life urge will never find full expression if he remains a narrow individualist. The miser is a repressed individual. His material environment has been too much for him, and has partially succeeded in quenching the living forces within. But the social worker who gives all for society is himself expanding freely.

Rousseau supposed that Emile was free because he was never taught anything by his tutor until he expressed the desire to learn. But nothing could be further from the truth, for he was denied full human companionship. He possessed impulses towards social co-operation which were consistently repressed by his education. He was prevented from expressing some of the deepest drives of his nature, and consequently his individuality was warped. Paradoxical as it may sound, the life urge of an individual can never be fully expressed until that individual has learned to co-operate with his fellows, and to see himself in relation to society. It may be that it is through this process of co-operation that he learns to distinguish between the impulses that issue from life itself, and mere passing whims which arise superficially through his contact with matter. In any case, he can never attain to fullness of life until he has learned to serve his fellows.

It is therefore imperative that there should be adequate opportunities for social co-operation in our schools. The old system, with its large classes of children who were herded together and not allowed to speak to, or help, one another during school hours, with its competitive examination spirit and its rewards for self-interest, did not minister to the socializing process so essential to the full development of individuals. The newer experimenters emphasize

[1] *See* Chapter V, pp. 47–8.

the need for a real community life. The school commonwealth is necessary for the development of free individuals. In addition to the discipline that comes from self-imposed work, there should also be that which comes from having rights and responsibilities as a member of a community. To this discipline the individual responds naturally : he sanctions it. In so far as he feels himself a member of the community that gave it birth it is not external to him, but is imposed by the socialized self.

Finally, there is the highest kind of freedom—*real freedom.* It has already been shown that the individual is not self-contained. There is within him a drive towards a socialized self which must not be repressed. There are aspects of his nature which are starved until he enters into harmonious relationships with his fellows. But neither is the human species self-contained. There is a larger reality to which it is related. And the same creative impulse which is at work in it to-day was, is, and will be at work not only throughout human history, but throughout the whole process of the evolution of life.[1] Just as *social* freedom means being in right relationships with *society*, so *real* freedom means being in harmonious relationships with eternal *reality*. Real freedom, then, contains and surpasses both individual and social freedom.

According to Bergson, the individual not only has social instincts, but he has also a power of intuition by the use of which he may hope to understand and to enter into more perfect relationships with living creative evolution. And if this power be atrophied, his personality will never expand to its fullest possibilities. Even if he attains to a socialized self there will still be living impulses undeveloped and depths in his nature unsatisfied.

In order that an individual may be educated to realize himself fully three conditions must therefore be fulfilled.

[1] *See* Chapters IV and V.

First, in childhood and youth he must be free to grow, to choose his own work within certain limits, and to follow his own creative impulses under the sympathetic care and guidance of those who understand him.

Secondly, under guidance he must win for himself social freedom by learning to co-operate with his fellows, through participating in a real community life.

And, thirdly, he must be helped to enter into harmonious relationships with living creative evolution.

Some of the experiments that have just been described have shown that much can be done during school days to prepare boys and girls for a true *social* freedom; but so far little has been attempted in the direction of the fulfilment of the third condition. Yet during childhood, and still more during the period of youth, most individuals are powerfully impelled from within to seek a philosophy of life; and it is therefore obvious that their education should be such as to minister directly to this powerful impulse. The subjects studied, and the methods of learning, will have to be such as to lead to an understanding of reality; for it is only by this means that the individual may hope to attain to the highest kind of freedom, and thus to realize himself.

CHAPTER IX

The Growth of a Philosophy of Life and the Problem of the School Curriculum

HOWEVER successful an individual may be in his struggles against necessity and his utilization of matter, his personality will never expand fully, nor will he find the secret of the art of living, until he wins for himself a measure of *real* freedom by entering into harmonious relationship with reality itself. It is therefore necessary that he should be educated to understand life and to appreciate creative evolution. He will need a general philosophy of life to help him to play his part in human society, in addition to the special knowledge and skill which will enable him to follow his own vocation.

The period of youth is especially critical in regard to the development of one's philosophy of life. At this stage not only is the rate of physical growth phenomenal, but so many new intellectual interests and new emotional experiences crowd in upon the individual that the whole balance of his personality tends to be disturbed ; and it becomes necessary for him to reorientate himself to society and to the other spiritual forces which he now perceives to be at work in the universe. He is powerfully impelled from within to form a philosophy of life. It is, therefore, fundamentally important that at this period every individual should have opportunities for further education ; and that the teaching given him—whether in continuation, technical, or secondary school—should not only prepare him to earn a livelihood, but should also aid him in his quest for a religion. It is in the light of this need, and also of the laws that govern the growth of a philosophy of life, that we are most likely to find a solution of the difficult problem of the curriculum which is suitable for this period.

At first sight it may seem unwise to introduce into the discussion of the problem of the curriculum such a con-

troversial subject as that of the teaching of religion; but further consideration will show that it is the separation of these two problems from one another that has led to their both being misconceived, and consequently to their both remaining unsolved.

It is difficult to be satisfied with the present position of, and the methods employed in, so-called religious instruction in schools. If it be true that every individual develops from within, it is not surprising that dogmatic religious instruction, given to large classes of children and usually by teachers who have given little thought to the question, is so ineffective in satisfying the needs of the individuals comprising the group. If such instruction is to have any real meaning to a child it must run parallel to his own inner religious experiences. It must await their development. In short, an effective philosophy cannot be a fabrication of the theological ideas of other people. It must be founded on the individual's own experience.

It is, of course, true that the individual responds to certain influences that come from without. The same creative impulse that is at work within him is also expressing itself throughout creation; and his development occurs partly through interaction between him and other spiritual forces in the universe. But his philosophy of life, his organized spiritual experience, must be his own. If his theology is a manufactured article, which he wears as he might a cloak, it will have little or no influence on his life, except in the direction of deadening his own spontaneous spiritual experiences. True religion is essentially individual and organic. "The kingdom of God cometh not with observation. Neither shall they say, lo here! or lo there! for, behold, the kingdom of God is within you."

On this account it is more than doubtful whether religion can ever be explicitly taught as a class subject. Of course, creeds can be recited and articles of faith memo-

rized, but these merely serve to clutter up the minds of those children who have no direct and relevant experience by which to interpret them. Of what use is it to teach a class of children of three or four years of age to express their belief in the doctrine of the Trinity? On what experience of theirs can it possibly rest? And yet this has been done daily by a teacher, who apparently was devoted to the interests of the children, but who entirely misconceived her own office. The truth is that most of us have too much confidence in our own partial views of reality and too little faith in the innate creativeness and spirituality of children. We do not really believe that the kingdom of God is within each little child; and therefore, not infrequently, we do our best to smother the divine spark by heaping upon it a mass of dead dogmas. We forget that it is natural for children to have intercourse with God. As Professor Campagnac says: "They are ready to find Him everywhere, until, misled by us, they learn to imagine that He may be imprisoned in a shrine, or His operation limited to special occasions."[1]

It is because some of us imagine that we have cornered reality that the educational world frequently becomes involved in the strife and tumult of bitter religious controversies. We quarrel among ourselves as to whether this doctrine or that shall be taught, but we seldom stop to consider whether we have any right at all to impose our ready-made and imperfect conceptions upon the minds of children, and thus possibly to raise barriers between them and reality. We hear much of the rights of different denominations to have entrance into the schools, the rights of parents to have their children instructed in their own faith, the rights of teachers to be free from religious tests, and even the rights of ratepayers; but we seldom consider the in-

[1] E. T. Campagnac: *Religion and Religious Teaching* (1918), p. 27.

violate right of each individual child to come into direct contact with the great spiritual forces that are at work in the universe. He may be led to find the secret of life through his contemplation of the wonders of Nature, through his study of the life of Christ, through the love of parents or the devotion of a pet, through pain and sickness, or through joy, "a fancy from a flower bell, someone's death, a chorus ending from Euripides." And no interpretation of life will suit his case which does not issue from, and indeed synthesize, his own deepest experiences. His philosophy must be his own.

Of course, this does not mean that a child is to be left without human help in his search for truth. No teacher with deep religious convictions can help influencing the children under her care. No parent can avoid controlling, to some extent, the spiritual environment of his child. But Dr. Montessori has shown that it is possible to control the environment, and yet to leave a real choice to each child to respond according to his individual needs and interests. So it should be with religious education. There should be no imposition of definite dogmas or fixed views of reality, which tend to prevent further growth. There should be no compulsion on the child even to join in corporate worship. But it is well for him to hear the simple Bible narrative, and to be a spectator of sincere acts of corporate worship. The influences that surround him can, and should be, controlled ; but he himself must be left free to respond to them according to the urge within.

Once this is realized the problem of the teaching of religion takes on an entirely new complexion ; for the influences that surround an individual are not confined to set times or places. The growth of a philosophy of life does not take place only in periods set apart for so-called religious instruction. Any hour of any day, and any subject in the curriculum or any experience outside it may con-

tribute something vital to the individual's philosophy. "As the lightning which shineth from one part of heaven even unto the other, so is the coming of everything that is critically important for the human mind. No prophet can foretell the hour, the place, or the form." No one's philosophy of life is acquired on ear-marked occasions, or by the study of the history of one special people.

Religion, taught as a subject among subjects, is, therebound to be merely perfunctory, for so many vital experiences will lie outside it. And the time will probably come when the inconsistencies between its teaching, and the knowledge and experience gained in other directions, will make the individual regard his ready-made theology as worthless, and he will discard it with contempt. Of what use is it to teach a gospel of love in a period set apart for religious instruction if the whole teaching of English history be narrowly national and shot through with the blasphemy of hate? Of what use is it to teach science side by side with a theology to which it is unrelated, and with which it can never be harmonized?

It is no wonder that boys and girls find it so difficult to gain a working philosophy of life when the curriculum consists of arbitrarily chosen subjects, without relation to one another or to life itself; and when those subjects are taught in such a way that different systems of values are implicit in them. The muddle is not righted by setting aside a few periods a week for explicitly teaching yet another view of life which is inconsistent with most of the others. This simply adds to the confusion. Until the problem of the curriculum is faced squarely and the influences to be emphasized are carefully and consistently selected —in other words, until all the work of each week has a philosophical orientation—the problem of the teaching of a philosophy of life will not begin to be solved.

It has already been shown that at the early stages of

education much of the artificiality of the division of the curriculum into subjects can be eliminated by arranging for the various lines of interest to separate out from the concrete occupations of a purposive life.[1] But at a later stage, when wider interests arise and a greater degree of separation results, something more is necessary to bring harmony and life into the different subjects of study pursued side by side.

The modern emphasis on correlation is one attempt to relate the different subjects, and thus to bring meaning and purposiveness into the curriculum.

Mr. Kenneth Richmond makes another attempt in the same direction by advocating a synthetic method of teaching.[2] According to this method most, if not all, of the subjects studied by a class would have to be taken by one teacher, who would make so many cross-references from subject to subject that the children would naturally be encouraged to relate their different studies, and to try to find a meaning for the whole.

Mr. Richmond's synthetic method is certainly good so far as it goes. It aims at making a philosophy of life possible; but, like the principle of correlation, it does not go deep enough. Because the cement is good it does not follow that any odd fragments of china can be made into a vase. It depends on the nature of the fragments. Similarly, the success of a synthetic method of instruction depends, not only on the method itself, but also upon the subjects of study chosen for inclusion in the curriculum. Is it likely that subjects selected arbitrarily according to mere tradition can be synthesized into any sort of a whole? This would not be possible even in the mind of the teacher, still less in the minds of the children. Of course, it must not be forgotten that the growth of an understanding of

[1] *See* Chapter VII, pp. 64–7.

[2] K. Richmond: *Education for Liberty*.

life takes place within each individual, and depends partly on his individuality. The curriculum must, therefore, always allow of a certain measure of choice to such pupil : there must be a number of options. But, in addition, the training received is only likely to lead to an understanding of reality if the departments out of which the pupil's choice has to be made are selected on some sound philosophical principle.

Bergson's philosophy is especially helpful in regard to this selection. And its guidance was never more needed in England than it is to-day, when extensive provision is being made for the further education of youth, both by the extension of secondary education and by the setting up of central schools and of a few part-time day continuation schools. So far continuation schools are practically free from bondage to tradition, and they therefore provide unique opportunities for experiment in respect to the curriculum. But it is possible that the experiments and even the work itself may miscarry in these schools if the underlying principles are not carefully thought out.

According to Bergson, action is man's first necessity. He has a body, which is his instrument of action ;[1] and an intellect, which is specially adapted for the understanding and utilization of matter with which life is in conflict.[2] The intellect is essentially analytic in its operations ; and one of its devices for purposes of action is to fix things that are really changing. In itself it is, therefore, unequal to the task of appreciating durations. However well trained it may be, it is always turned towards matter and away from life ; and it always lets slip the biggest things in existence.

But man has another power, that of intuition,[3] by the use of which alone he can hope to comprehend personality,

[1] *See* Chapter III, pp. 31–2. [2] *See* Chapter VI, pp. 52–4.
[3] *See* Chapter I.

life, and spirit. It is true that in the past he has frequently made the mistake of sacrificing intuition to intelligence. He has concentrated his attention on matter to such an extent that it has sometimes seemed to him that nothing else existed. The world has been too much with him. Getting and spending, he has laid waste his powers of intuition. He has given away his heart, a sordid boon. And the result has been that he has frequently failed to understand the meaning of life: he has missed the secret of the art of living.

In arranging schemes for the continued education of adolescents it is perilously easy to magnify the pupil's need to understand matter in order to earn a livelihood, and to ignore his need to understand life. This is one of the dangers that imperil the success of the new scheme for part-time continued education. If the instruction given be technical and utilitarian the individual may become a more intelligent workman, a better machine, and the production of wealth may thereby be increased; but he will not be helped to live more abundantly, and the creative forces that are at work in the universe will consequently not be reinforced in their struggles against necessity. This is not only true of that narrowly vocational instruction for which few educationists would put up a serious case, but also of that wider scientific and business training which is characteristic of some existing technical schools. The physical sciences, mathematics, applied sciences, one or two modern languages that are likely to be of use in business, bookkeeping, and other commercial subjects, drawing, and handwork—these are the subjects studied. Even the periods set apart for English have a definitely utilitarian bias. The pupils are taught to write business letters, or are encouraged to read the lives of inventors or the history of British commerce. The whole scheme is calculated to prepare the pupils for action, and to enable them to do their

own jobs efficiently; but it leaves them in the dark concerning the nature and meaning of life. In itself, it would lead them to think that efficiency and commercial success are everything, and that nothing else matters. In pre-war days there used to be "sound business" men who were enamoured with such a scheme. But one would imagine that the war, which revealed on such a vast scale the tragic results of the mechanization of life,[1] would have taught even

> Thick heads to recognize
> The Devil, that old stager, at his trick
> Of general utility, who leads
> Downward, perhaps, but fiddles all the way.[2]

In order that a man may be educated to play his part in human society something more is needed than the acquiring of technical skill and of knowledge concerning the laws of matter. With all his getting he must get understanding, that understanding of life which alone is true wisdom. If he is not educated to do this he will misuse his technical skill, perhaps even selling it to the highest bidder for his own narrow individualistic ends.

According to the Bergsonian position, then, a balanced curriculum ought to satisfy both sides of the pupil's nature—his need for action and his need for an understanding of life.

In order that his body may be fully equipped for purposes of action there should be some form or forms of physical training suitable to his individual needs. And there should also be training for the intellect, either through vocational work or through more purely intellectual studies, according to the ability and desires of the pupil.

[1] *See* Chapter V, pp. 46–7.
[2] Browning: *Red Cotton Nightcap Country*.

In the second place, there should be time and opportunity for the study of life, for subjects which might be called intuitional, such as biology, world-history, literature (and especially poetry), art, and the kind of philosophy that would illustrate the broad movements of human thought, and would include a study of the evolution of religion.

In the secondary school, where the pupils receive full-time instruction, there ought to be no difficulty in working out a balanced curriculum: provided, in the first place, that teachers do not cling to traditional compulsory subjects, such as Latin; and, in the second place, that Examining Boards and the Board of Education recognize that options within each group are necessary, according to each individual's interests. For example, it is possible to have one course of intellectual training which is predominantly practical in its nature, and another which is more theoretical. One type of girl may profit more by a domestic science course or a secretarial training course, and another by more academic studies. But while the principle of options within each group should be recognized, it is doubtful whether, at secondary school age—even in an advanced course—there should ever be the entire omission of one side. No pupil in a secondary school should be devoting all his time to mathematics and the physical sciences. He needs poetry and the arts. He needs to understand life's great adventure, especially as it is seen in the evolution of man. In short, he needs the complement of the sciences, namely, "life" subjects.

In continuation schools, where the instruction given will be part-time and the hours of attendance few, it will be more difficult to preserve this balance; and pressure may be brought to bear on the teachers to give that kind of training that makes for industrial efficiency. It should be remembered, however, that the very fact that the pupils are engaged for most of the week in industrial work

means that the balance of their lives would be better preserved by omitting vocational and technical subjects than "life" subjects. What they, and indeed full-time pupils, need most of all is an insight into what man is and what he may become. No modern educational thinker has realized this more clearly than Mr. H. G. Wells. "I have believed always and taught always," he writes in the person of Job Huss, an educational reformer, "that what God demands from man is his utmost effort to co-operate and understand. . . . I have taught philosophy; I have taught the whole history of mankind. If I could not have done that without leaving chemistry and physics, mathematics and languages out of the curriculum altogether, I would have left them out."[1]

What is needed, then, both in secondary and continuation schools, is that these "life" subjects should have their proper place in the curriculum; and that, side by side with their systematic study, there should be a real social life in the school. We have already seen that even in progressive secondary schools there is often a great gap between the systematic work of the boys and girls and their social life. The pupils may be learning to co-operate with their fellows for purposes of discipline; but their studies seem to have no bearing on the real problems of government with which they are confronted. It is not difficult to see that if these "life" subjects had their proper place in the curriculum this gap would be reduced The pupils' experiments in social co-operation and government would illuminate their study of history; and, in turn, their study of history would throw light on their experiments. And the two together, constituting, as it were, the theory and practice of social life, would go a long way towards helping them to develop a true philosophy.

In addition, the study of the views of poets and mystics

[1] H. G. Wells: *The Undying Fire*, p. 114.

concerning nature and life, the study of the evolution of man's spiritual experience, and particularly of his conception of God as illustrated in the records of the Old Testament and the consideration of what man may become through the study of the New Testament, may help in the growth of the individual's understanding of reality. But it must never be forgotten that the apprehension of other people's views or snapshots of reality is insufficient in itself. There must also be a direct intuition of the movement. On this account it is not enough to arrange for the inclusion of "life" subjects in the curriculum. The methods employed in their teaching must also be of such a nature as to encourage intuition on the part of each pupil. For example, although a systematic consideration of the forms of life is necessary in the teaching of biology, the study must not stop there if it is to contribute anything to a philosophy of life. The process of evolution must be seized *sub specie durationis*. If this could be done, not only in biology, but in other "life" subjects, it would be found that there would be no permanent opposition between the individual's philosophy and his science. Gradually he would come to possess a philosophy of life which would limit, but at the same time complete, his knowledge of matter.

CHAPTER X

New Methods in Teaching. Creation

WE have already seen that an individual is truly educated in so far as he succeeds in expressing the living forces that are within him and in winning for himself a measure of *real* freedom. And our analysis has shown, further, that in order that he may attain to *real* freedom three conditions must be fulfilled. He must certainly be allowed and encouraged to follow his own deepest creative impulses ; but, in addition, since there is a sense in which the *élan vital* is shared by all his fellows, and, indeed, by all living organisms, he must have opportunities for learning to co-operate with his fellows, and he must also be helped to enter into harmonious relationships with life itself.

It is not difficult to see that the working out of these three principles in practice would not only affect the general organization, discipline, and curricula of schools,[1] but might also be expected to influence the actual methods employed in teaching. Indeed, on examination, many of the newer methods of teaching reveal themselves to be in line with the Bergsonian position, and to have implicit in them a recognition of one or more of these principles. For the sake of clearness these will be classified according to the principle which they emphasize ; but it must not be forgotten that the three principles are intimately interwoven.

If it be true that the development of an individual is a creative process, it follows that opportunities for creation are essential in any well-arranged curriculum. And for some time there has been a welcome change in educational method in the direction of recognizing the importance of creative acts on the part of each individual.

In the past repetition and drill were the usual methods

[1] *See* Chapters VIII and IX.

of instruction in the elementary school. In the geography lesson, lists of rivers, capes, and bays were learned by heart; in the grammar lesson, lists of examples of parts of speech were repeated ; and in history, lists of dates, battles, and kings were recited. Even in the time devoted to arithmetic there was much repetition of tables ; and the general aim seemed to be to drill the pupils into a kind of mechanical proficiency in working a limited number of different kinds of sums. In short, there was much time spent in drill and learning by heart and little in constructive work.

Similarly, until comparatively recently, there were few opportunities for creative work in public and secondary schools. Most of the time devoted to classics was either spent in the learning by heart of declensions, verbs, rules of grammar, and lists of exceptions to rules, or in mechanically translating classical authors. It is, of course, true that at the higher stages boys were encouraged to write Greek or Latin verse : but even then it was the imitation of classical authors that was aimed at, and not free constructive work. In mathematics the pupils fared slightly better. There were opportunities for exercising ingenuity in solving riders. But, unfortunately, these provided no sure way of escape from the danger of mechanization, except to those pupils who were distinctly mathematical. On account of the abstract nature of the subject many boys were not sufficiently interested to be able to make the necessary constructive effort *in this direction*, and consequently they were left without a medium for the expression of their creative impulses.

The employment of the heuristic method in the teaching of science seemed in theory to be a great step forward. It was a definite attempt to make each pupil use his own ingenuity to discover his own science : but in practice there were many difficulties that militated against the

complete success of the method, at least as it was first conceived. Frequently much time was wasted ; and at the end many boys and girls either got nowhere or were pushed into a discovery by artifices on the part of the teacher. Indeed, some seemed to have little or no power to solve *for themselves* the particular problems set before them by the teacher. The experiment was, however, of great educational value, for it revealed the truth that individuals cannot create to order in a predetermined direction.

Similar experiments are being made to-day in other subjects. Teachers of English are realizing the value of constructive work and are providing more frequent opportunities for free composition and for the illustration of the literary works studied. In his book entitled *The Play Way* Mr. Caldwell Cook has described many ingenious ways which he has used to encourage creativeness through the teaching of English. Both he and Mr. Norman MacMunn[1] have shown that it is possible for schoolboys to write plays and to produce them themselves. The writing and acting of a play, the composition of the incidental music in it, the making of the scenery, and the arrangements for lighting the stage provide a variety of opportunities for creation on the part of the pupils. Similar dramatic and constructive methods are now being commonly used in the teaching of history. Indeed, there is hardly a subject in the ordinary school curriculum the teaching of which has not recently shown signs of improvement in this direction through its closer alliance with the arts and crafts.

The methods employed in the teaching of the arts also tend to be modified in the direction of an increase of emphasis on creation. Take, for example, the art of music.

[1] *Report of Conference on New Ideals in Education* (1918), pp. 139–145.

There is an increasing recognition among practical teachers that the older mechanical methods of teaching were not educational in the broadest sense ; and that music ought to be taught in such a way that even in the early stages children have frequent opportunities for expressing themselves creatively. Dr. Yorke Trotter[1] has shown how this can be done practically, and how children can be helped to appreciate music through their own efforts at composition. The results obtained through his system are astonishing, and certainly constitute a practical proof of the value of creative methods in the teaching of music.

The system of eurhythmics evolved by M. Jacques Dalcroze is based on the same principle, though differently applied. The pupils have frequent opportunities of expressing themselves creatively through rhythmical movements. They learn to appreciate music through its expression in bodily movements, and there is throughout a place for improvisation. "All children feel a craving to create," says M. Dalcroze, "and the teacher should lose no opportunity of turning this disposition to account. He should set them, from their earliest lessons, to improvise short phrases . . . or to replace a bar of melody by one of their own composition. He will find them revel in such exercises and make rapid progress in improvising."[2] As we shall see later, other principles of the greatest educational significance are also involved in this system : but here it is sufficient to notice that one of the most outstanding modern developments in musical education is based on a recognition of the value of creative expression.

But although the educational world is beginning to realize the part played by creation in the development of a personality, there is still a great need for a deeper analysis

[1] *Report of Conference on New Ideals in Education*, 1914 and 1919.

[2] *Rhythm, Music, and Education* (1921), p. 44.

of the process in order that teachers may understand the conditions necessary for the successful application of the newer methods. It is of little use vaguely advocating their employment if no practical guidance can be given concerning the conditions that must be fulfilled before an individual can be expected to create anything, either in thought, language, or more material form.

The first condition for the successful use of creative methods in teaching is obvious. An individual is unlikely to be able to create anything in a direction which is not of his own choosing. The early advocates of the heuristic method of teaching, who fixed the particular scientific problem to be investigated and expected all the individuals in a class to be able to make constructive efforts in the same direction, entirely misunderstood the springs of originality. All creations present an organic character. Although they are never entirely calculable, yet they depend, to some extent, on the accumulated experience and on the trend of interest of the individual. They issue from the *life urge* of their author. "If the characters created by a poet give us the impression of life," says Bergson, "this is only because they are the poet himself."[1] And no one can be expected to create a solution of any problem in which he is not deeply interested, and concerning which he does not feel the "burthen of the mystery."

In order to encourage creativeness, then, the first thing that is needed is variety of opportunity, so that each individual may find his own line, if not in science and mathematics, then in art, literature, handwork, or in some other direction; and if not in one problem or topic, then in another. The practical bearing of this is obvious. There should be some choice of subjects in the curriculum, although the balance between the main groups should always be preserved. And even in a subject chosen for study by a

[1] *Laughter*, p. 167.

child the teacher should not always fix the problem or the subject for constructive work and expect every member of his class to travel in the same direction. Class syllabuses must therefore be more elastic than they have been in the past. In science, for example, the pupils should sometimes be allowed a choice of problems. They should be encouraged to investigate questions which have occurred to them spontaneously: for the same boy may be utterly idle and stupid when faced with something that is not to him a real problem, and alert and eager when allowed to investigate a question which has long been to him a subject of thought. If he has tried to mend clocks, or if he is keen about motor bicycles or aeroplanes, many questions will arise spontaneously in his own mind. And, if allowed and helped by his teacher, he will investigate these with sustained effort and with something of the scientist's sense of joyous intellectual adventure, for he will really desire to know. Such opportunities for individual work are necessary side by side with systematic class work.

Suppose, then, that an individual really wishes to do a certain piece of constructive work. There will probably need to be time between the outlining of the problem and its solution, or between the rough vague scheme and the finished mental product. There appears to be a kind of incubation period before an act of creation. There has to be a play of ideas in the mind. There have to be comings and goings, oscillations, struggle and negotiations between the ideas before they fit themselves into a scheme. This is how Bergson describes the process: "We have the distinct feeling of a form of organization, variable no doubt, but anterior to the elements which must be organized, then, of a competition between the elements themselves; and lastly, if we succeed in inventing, of an equilibrium which is a reciprocal adaptation of the form and of the matter. . . . It is just as though we had to stretch a piece

of indiarubber in different directions at the same time in order to bring it to the geometrical form of a particular polygon. It shrinks at some points, according as it is lengthened at others. We have to begin over and over again, each time fixing the partial result obtained ; we may even have, during the operation, to modify the form first assigned to the polygon. So it is with the effort of invention."[1] In some cases there must be a period of waiting; the problem must lie fallow, presumably in order that secret adjustments may take place in the unconscious mind ; and then suddenly the act of creation is completed.

In attempting to use creative methods in teaching it is, therefore, necessary that adequate time should be given to the pupils for invention. The rigidity of the ordinary school time-table, of course, makes this difficult. Yet even a well-trained adult could hardly produce original literary work in a forty minutes period. But in school, if a pupil delayed writing until the process of creation was accomplished, he would probably find that just when the subject was beginning to take shape in his mind the bell would ring out the period for composition, and ring in that for Latin or some other subject. He would be expected to switch his mind, tense in the throes of creation, on to a topic out of line with its movement. And the natural result would be, not only failure to complete the creative work, but boredom with the new subject of study. Of course, this division of the working day into periods of equal length is a practical convenience, and is well adapted for routine and mechanical work. But it does not respect the natural articulations of the thinking of each individual. And, rigidly adhered to, it induces a kind of mental passivity through the repeated snapping of the spring of the mind's movement. Thus it frequently has the result of mechaniz-

[1] *Mind Energy* (1920), p. 181.

ing living individuals. Surely there might be at least one day, or one half day, in the week when each pupil could be allowed to work along his own line and to distribute his time as he thought fit. And he should certainly plan out his own homework time, provided, of course, that the total number of hours does not exceed that which is suitable to his age and bodily health. Yet the whole tendency in some schools at present is in the direction of ear-marking every hour of the working day for an appointed task, so great is the desire for mechanical efficiency.

How frequently the fixed distribution of time interferes with creative processes can be judged from the reports of university students. In reply to a definite question, several years of post-graduate students have stated that neither during their school life nor, in most cases, during their university training did they ever have time for creative literary work. It is true that they had to write essays, but they were kept so busy with routine work that they never had an opportunity of delaying the writing of the essay that was demanded of them until the incubation period was over. They were never able to browse on a subject long enough for equilibrium to be established between the form of organization and the data to be incorporated. And it is therefore not surprising that they produced mosaics of other people's views rather than organic works of art. Throughout the whole educational system, with very few exceptions, there are too many set lessons and lectures ; there is too much herd teaching, and too little time for individual work and for that practice of silence which is the prelude of all truly creative work.

The tutorial system of the older universities is a striking exception, and affords a practical proof, if any were needed, of the value of individual work and of creative methods in teaching. Under this system each student is given individual help and guidance. He is advised by his tutor to

attend certain lectures, to read certain books, and to write certain essays ; but he is master of his own intellectual life, and can plan his work and use his time as he thinks fit. He is not the slave of a time-table, but is free to develop from within at his own rate and in his own way.

The Dalton plan[1] of education, of which so much has recently been heard in America, is an interesting attempt to use similar individual methods of teaching with boys and girls of school age. The pupils enter into a contract to do so much work in each subject in a month, but they are free to distribute their time within the month as they think fit. The school is arranged in subject laboratories, to which the children have free access, and in these there is a clear assignment of work in each grade of that subject. Careful daily records are kept of the work accomplished by each individual and each form, and at the end of the month there is usually a test. The advantages gained by doing away with the rigid class time-table are obvious. Each pupil can proceed at his own rate and can work as a free agent. He can co-operate freely with others. And when the impulse comes from within he can create.

It may possibly be true that this plan puts an exaggerated emphasis on the continual need for individual work and fails to recognize the full value of the training that comes from the performance of tasks in common with other members of a social group. Perhaps a mean between herd teaching and the Dalton plan will prove to be what is required for most pupils. But, in any case, these experiments have certainly shown that a school can be organized so that *individual* work is the rule and not the exception. The old belief that herd teaching is a practical necessity is, therefore, exploded, and there seems no practical reason why teachers should be afraid of experimenting in the

[1] For details of the Dalton plan see *Times Educational Supplement*, July 2, 9, 16, 23, 30, and August 6, 1921.

direction of allowing their pupils more frequent opportunities for individual and creative work.

As well as opportunities for creation, routine work is, of course, also necessary ; for life itself is impossible without habit and without the stability and permanence which habit implies. On the other hand, if habits become too securely established, if they become masters when they ought to be servants, they hinder the power of adaptability to new circumstances, which is the essence of life, and progress ceases. What seems to be required, then, is a proper relation between creation and habit. For example, to advocate the complete elimination of training in technique, in the teaching of an art, seems to be unwarranted, not only from the point of view of the value of the resulting work of art, but also judged by the effect upon the life and character of the artist. There must be technical training, there must be mechanical proficiency, but this must always be subservient to the creative impulse.

No one has realized this more clearly than Professor Čižek in his work at the Vienna School of Arts and Crafts. He has proved practically that excellent results can be obtained in any art work, at least with picked children, by creative methods of teaching and without much explicit technical training. Many of the drawings and paintings of his pupils which have recently been exhibited in England are extraordinarily alive and vigorous. And he claims that this is due to one fundamental difference in his method as compared with that of most art masters. " I take off the lid," he says, "and other art masters clap the lid on."[1] Probably he would not go so far as to say that there should be no technical training. Many of the drawings exhibited are, indeed, quite conventional. But his work shows that

[1] F. M. Wilson : *The Child as Artist.* (Conversations with Professor Čižek, 1920.)

training in technique may be almost entirely implicit, and that it is far more important for a child to express, however imperfectly, what is within him than it is for him to produce conventionally correct works of art.

Many practical teachers, who would not go so far as Čižek, would agree that technical processes should only be taught when the pupils have felt the need for them through partial failure to express themselves: that is, they should be the servants, not the masters, of the creative impulse. For example, the old method of teaching woodwork, in which the so-called grammar of the art was first taught before the pupils were allowed to exercise any choice in regard to the object to be made, is now somewhat discredited. We do not expect a child to learn grammar before he has learned to speak. And neither should we expect a boy to learn the grammar of woodwork before he has had experience in trying to express himself in this medium. It is, therefore, becoming more usual for a boy to be allowed to choose what he would like to make and to be taught the technical processes involved in relation to his purpose. Of course, he will waste more wood; and the finished product may not be so near mechanical perfection as it would have been if he had been drilled in the technical processes first. But, after all, it is the effect on the boy and on his development, and not the value of the finished wooden product, that is of first importance. And work in which there is a proper relation between habit and creation is able to contribute something to the expansion of an individual's personality. It is also accompanied by joy, for joy is the seal which Nature sets on every act of creation.

Philosophers who have speculated on the significance of life and the destiny of man [says Bergson] have not sufficiently remarked that Nature has taken pains to give us notice every time this destiny is accomplished; she has set up a sign which apprises

us every time our activity is in full expansion; this sign is joy. I say joy; I do not say pleasure. Pleasure, in point of fact, is no more than the instrument contrived by Nature to obtain from the individual the preservation and propagation of life; it gives us no information concerning the direction in which life is flung forward. True joy, on the contrary, is always an emphatic signal of the *triumph* of life... We find that wherever joy is, creation has been, and that the richer the creation the deeper the joy.[1]

But it may be argued that there are some children in our schools who are incapable of creating anything of real worth. This may be true of the outward products; although the number of such children will probably be greatly reduced when the newer educational methods are more widely put into practice. Suppose, however, that there remain a few children who are incapable of artistic or scientific creations. The work of their intellects and of their hands may have little originality, but even they can create in an atmosphere of freedom. They can create character. And may it not be true, as Bergson suggests,

that the ultimate reason of human life is a creation which, in distinction from that of the artist or man of science, can be pursued at every moment by all men alike ... (namely) the creation of self by self, the continual enrichment of personality by elements which it does not draw from outside, but causes to spring forth from itself?

If it be so, then even the least original can experience joy, the sign of the fulfilment of human destiny.

[1] *Life and Consciousness* (*Hibbert Journal*, October 1911), pp. 41–2.

CHAPTER XI

New Methods in Teaching. Co-operation

IN order that an individual may expand freely, opportunities for social co-operation are necessary as well as for creative work. The two principles are, indeed, correlative, for there is no such thing as an absolute or self-contained individual. Every human being possesses social instincts, living impulses which impel him to seek fellowship in social life. And if these have insufficient opportunities of expressing themselves he will never attain to full development. The spoiled, unruly child is often cited as an instance of the dangers of too much freedom ; but the truth is that he is not free at all, nor is he even being prepared for freedom. Certain sides of his nature are being consistently repressed, and consequently he is being warped. The impulse towards the protection of others of his own kind, who are perhaps weaker than himself, is as much a part of his real nature as is his instinct of self-assertion : and if there are no opportunities for its expression, not only will he be less happy, but he will also be less free. It is only through full membership in a group that the social instincts of the individual are able to express themselves, and his personality is consequently enriched. This is the great paradoxical law of individual development. " Whosoever will lose his life, the same shall save it."

In the past not only universities, but many schools, have realized the educational value of community life. The house system in boarding-schools, and the recent emphasis on games, are expressions of this realization. But, too frequently, the social life of a school is almost entirely separated from its academic work ; and although co-operation is encouraged on the playing-fields, yet the giving of help in the class-room is regarded as a deadly sin. There each pupil is encouraged to think only of himself and of his develop-

ment. In short, the principle of competitive individualism reigns supreme.

But it is now beginning to be realized that if children are to have that clear guidance in the art of living which will help them to win for themselves social freedom there must not be this confusion between their work and their play. The same principle of fellowship must govern both. They must learn to work as a group as well as play as a team. Group methods of teaching are, therefore, beginning to be tried in many schools.

Group-teaching is not, of course, the same thing as class-teaching. A collection of individuals all simultaneously pursuing a common task, imposed on them by a teacher, certainly form a crowd, but they do not necessarily constitute a social group. The members of a group are united by a common purpose. They need not all be doing the same thing at the same time and at the same rate. They may be doing different things according to their ability and interests, but they must be doing them for a common purpose. Consider, for example, the production of a group-model, or a composite picture, say, of a farmyard. Suppose each little child chooses how he would like to help, or what objects he would like to make. Then he settles to do his bit, inspired by the vague feeling that he is taking part in a bigger task than would have been possible without the co-operation of his fellows. If he wanders from his particular duty, or if he does not produce his best work, then to some extent he spoils the work of the whole group. Of what use is a farmyard without a cow, or, indeed, with a cow that is unrecognizable? His membership in a group is thus a means of inspiring him to greater efforts to express himself. And consequently co-operation with others for a single end does not entail a diminution, but rather an accession, of power to each individual. At the same time it provides a unique social training.

The case is otherwise with a class of children who have no common end in view but who happen to be contiguous in space, and are engaged, say, in the repetition of poetry. The same task is imposed on all, without regard to individual interests, and there is consequently little spontaneity in the work. There is also only the dimmest realization of social responsibility. Nothing much happens to the work if the individual relaxes his efforts, or even if he stops altogether. In the shadow of the herd most of the children are therefore lulled into a kind of passivity from which they only awake at the direct instigation of an outside authority—the driver of the herd. Of course, there are occasions when there is a strong emotional appeal and the individual receives inspiration through being a member of a large crowd, all engaged in the same task—in unison choral singing, for example. But collective or herd teaching alone is not enough, for it neither provides sufficient scope for the expression of individuality nor does it give adequate social training. What each pupil needs is encouragement to express *all* the impulses that are within him, both individual and social ; and this can be done most harmoniously by giving him opportunities to create in the service of a group.

In nursery and infant schools, where the work is relatively discursive, there is little difficulty in providing sufficient opportunities for social co-operation between the children themselves. If the equipment is of the right kind, the provision of the mid-morning meal in school or the tidying of a room can be the occasion on which the members of a small group learn to fulfil different functions in the service of the whole. And the production of a group toy, such as a cardboard Noah's Ark, can be used for something far more important than the mere representation of the animals. It can also be an occasion for social training, and can lead to an implicit recognition of the principle of fellowship.

At later stages the problem becomes more complicated on account of the standardizing of work and the increasing rigidity of time-tables and syllabuses. There are, of course, special opportunities for co-operation in the preparation for school parties, concerts, and sports, or during week-ends spent in camp. And, in addition, in special subjects there will always be occasions for group work which can be seized by teachers who believe in the principle of fellowship in education. For example, the teacher of literature has his opportunity in the preparation for the acting of a play; the teacher of history in the corporate research necessary for representing a historical tableau; the teacher of geography in the production of a relief map. In science, too, there are frequent opportunities for group work. Suppose a number of pupils are finding the solubility of a certain substance in water. They can divide the work among themselves, different pupils finding the solubility at different temperatures, so that, as a group, they have the data for a rough solubility curve. Each will probably be encouraged to greater care and accuracy through the realization that his result will affect the work of the whole group. In an actual case in which this was tried two pupils who were jointly responsible for finding the solubility at a certain temperature asked to be allowed to repeat their experiment when they saw how their result appeared to spoil the symmetry of the curve obtained by the rest of the group. The process involved in the repetition of the experiment was long and somewhat tedious, and the request could, therefore, very fairly be interpreted as a clear indication of a real feeling of social responsibility.

There are, of course, some subjects which from their very nature provide better opportunities for systematic social training than others. Games, handwork, gardening, orchestral music, choral singing, dancing, eurhythmics, dramatic art, and domestic science seem to be among the

best ; and this is surely an added reason for their inclusion in the curriculum both of the secondary and of the continuation school.

> What can be more gratifying [asks M. Jacques Dalcroze] than to interpret freely, and in an individual manner, the feelings that actuate us, . . . of allying eurhythmically our means of expression with those of others, to group, magnify, and give style to the emotions inspired by music and poetry ? And this gratification . . . cannot but contribute to the raising of the instincts of the race and the permeation of the altruistic qualities necessary for the establishment of a healthy social order.[1]

Subjects of this kind, which give opportunities for the expression of individuality and for group work, have certainly an added claim for inclusion in the curriculum. But even in these cases the value of the social training given depends largely on the way in which the group is organized. If the duties of each member are imposed on him *from without* there will be comparatively little real social training, whereas if the organization of the group comes *from within* the educational value of the work to the individuals is of an entirely different order.

There are, then, two kinds of organization of a group : the one mechanical, the other vital ; the one the result of a plan in the mind of an outsider, the members of the group being little more than machines to execute his purposes, the other effected by the collaboration of the individuals composing the group. An illustration will perhaps make this difference clear. A teacher and a small group of domestic science pupils had the privilege of preparing supper for all the boys and girls in attendance at an evening club. The teacher had a definite plan of action, had purchased the necessary materials, and proceeded to distribute the work mechanically. There was no discussion of the menu, or of

[1] *Rhythm, Music, and Education* (1921), pp. 219–220.

the work to be done, no volunteers were asked for, and the result was that no single pupil had any clear idea of the relation that existed between his particular job and the completed task. For example, one girl was chopping walnuts, and another dates. Neither realized that she had any connection with the other until the intention of the teacher to make nut and date sandwiches was discovered later. This is really not co-operation, and obviously such work does not provide the kind of social training that is most valuable. The case would have been different if the teacher had allowed the pupils to form a kind of committee and perhaps appoint a leader from among themselves, had given them money to spend, had allowed them to discuss the work and organize themselves for the doing of it. They would, no doubt, have asked her help and guidance, but that is a totally different thing from having her ready-made plan imposed on them. Of course, if the group were organized in this way something important might have been forgotten, the work might not have been carried out with quite the same degree of precision, and the resulting supper might not have been so well arranged, but the social training received would have been much more valuable.

Between these two extremes there are, of course, innumerable gradations. It can hardly be supposed that it will always be possible for a group to be organized entirely from within. It will depend on the nature of the work to be done, and on the social training previously received by the pupils. There may be occasions when the teacher has to interfere to prevent an unfair distribution of unpleasant tasks, but this is not likely to occur often ; and the more successfully the pupils have been taught to co-operate in their earlier years, the less likely it is that it will occur in a form with which the children themselves cannot deal.

Vital, as opposed to mechanical, organization of group

work is certainly the ideal at which to aim, for it alone provides for the full development of each individual in the service of the group. Membership in a mechanically organized group may lead to the realization of the necessity for service, but it will also result in the repression of the individual. But membership in a vitally organized group offers combined opportunities for the expansion of individuality and for social service. Consequently it alone is an adequate preparation for the freedom and responsibilities of adult life.

CHAPTER XII

New Methods in Teaching. Intuition

IN order that an individual may express himself fully and attain to a measure of *real* freedom, his education must not only provide him with opportunities for creative work and for social co-operation, but must also gradually make possible a direct apprehension of life itself. The mere inclusion of such "life" subjects as biology, literature, history, and philosophy in the curriculum is not enough. The methods employed in their study must be appropriate for the apprehension of durations, of life itself as opposed to its visual symbols, of spirit as opposed to its material forms. In short, they must be such as to encourage intuition on the part of the pupils.

Processes of intuition cannot, of course, be directly manipulated by any teacher. Like creations, they arise spontaneously out of the individual's own experience. The barriers which separate individuals from one another, and from the other spiritual forces in the universe, sometimes appear to be momentarily withdrawn, and there may result in the mind of one individual an immediate sympathy with, and understanding of, another, or of life itself, which could not have become possible in any other way. Although these processes can no more be controlled from without than can creative processes, it yet remains true that much might be done by the educator to encourage this direct apprehension of the living, even if it were only in the direction of removing the artificial conditions which now exist, and which frequently prevent the natural development of a child's powers of intuition.

Our educational system in the past has laid a mistaken emphasis on book-learning. It has been too narrowly intellectual, and has tended to interpose other men's snapshots of life between the minds of the pupils and life itself. It has been individualistic and mechanical, and conse-

quently has tended both to separate and mechanize living individuals, and thus to raise artificial barriers between each one of them and living creative evolution. It is quite obvious that the intuitive grasp of life is more likely to be reached in direct contact with actual situations than it is through the study of other men's solutions of the problems of life; and the mistaken emphasis on book-learning has not made the intuition of life easier, but vastly more difficult. The recent revolt against the intellectualist view of education will, therefore, in itself do much to remove those general conditions which in the past have tended to the neglect of intuition.

This revolt has already indirectly affected the methods employed in the early teaching of Nature study. The elementary facts of botany and biology are no longer learned from books, diagrams, and pictures, but are discovered through direct contact with growing plants and animals. The children have a garden in which they work; they are encouraged to keep pets; and thus the general conditions are such as to make possible a more direct and sympathetic understanding of vegetable and animal life.

In the old days children had few opportunities in school for appreciating plants and animals as living creatures. The lamb that followed Mary to school was quite out of its element. There was no place for it there—it was "against the rule." For in school the facts of nature were learned from books, or, at best, from pictures and preserved specimens. The nature lessons were rightly termed *object* lessons; for in them the pupil learned to distort developing beings into static *objects*. The living animal was too disturbing and unpredictable a factor to be introduced into the mechanical system that prevailed.

But now conditions are changing. It is being increasingly realized that little children are most truly educated by being allowed to participate in the concrete and pur-

posive occupations of home and country life. In most schools for young children, time is therefore naturally spent on the cultivation of plants and animals ; and the pupils are thus provided with frequent opportunities for the direct observation of the phenomena of life. The result is that in many cases there gradually develops a sympathetic understanding of living beings and a real feeling for nature. As Dr. Montessori puts it: "A sort of correspondence arises between the child's soul and the lives that are developed under his care." In illustration of this she quotes the case of some children who had tended a climbing rose-tree, watering it regularly for a long time from their little watering-pots. "One day," she says, "I found them seated on the ground, all in a circle, around a splendid red rose which had bloomed in the night: silent and calm, literally immersed in contemplation."[1] They were willing and ready to be taught something of the mystery of life from the rose. If their unconscious impulses had been translated into the language of conscious thought they might have been expressed in Tennyson's words:

> Little flower—but if I could understand
> What you are, root and all, and all in all,
> I shall know what God and man is.[2]

Such simple, and it may be inarticulate, acts of contemplation are the first steps in the acquisition of a true philosophy ; for any one of them may bring in its train the realization that living beings give back more than they receive, and that life is essentially creative. But they are only possible when the first condition for the intuition of life, namely, that of *direct* and *sympathetic* contact with the living, has been fulfilled.

A second condition needs also to be explicitly recognized,

[1] *The Montessori Method* (1912), pp. 158–9.
[2] *Flower in the Crannied Wall.*

more especially at later stages when the nature work becomes less discursive and more scientific. Not only must the individual's contact with plants and animals be *direct*, but it must also be *continuous* if it is to contribute anything to his philosophy of life. One snapshot, however completely analyzed, is useless; for it fixes what is really changing, it spatializes what is really unfolding in time. When teachers of "life" subjects realize that the main object of their teaching should be to encourage their pupils to appreciate living beings as *durations*, and thus gradually to make possible a direct intuition of the current of life, both their syllabuses and their methods will be profoundly modified. In botany, for example, the treatment will not be so analytic as it frequently has been in the past. Less emphasis will be placed on classification, on the mere labelling of a plant and its parts, and more on its life history, the phenomena of growth and reproduction, and the functions of the parts. Any subdivisions of the subject which cut across the continuity of development, no matter how useful these may be to the specialist, are not of much importance to pupils, whose interest in the study is, and should be, of a more general nature.

In addition to these horizontal divisions within a subject which frequently prevent the appreciation of living beings as durations, there are also vertical divisions which almost completely, and therefore artificially, separate the "life" subjects from one another. And these also must be bridged in order that the apprehension of the process of evolution may become possible. There must be opportunities for comparing the facts of plant, animal, and human life, and for relating those distinguishable and divergent lines of evolution which appear to issue from a common original creating impulse. For example, the findings of biology and history must be co-ordinated if the study of either subject is to contribute its full share to the

growth of the pupil's philosophy of life. Indeed, any spatializing of a duration, or any analysis of life, which hides from us the continuity of evolution must never be regarded as a final interpretation. The end at which to aim is always that of the direct apprehension of the continuity, the grasping of life *sub specie durationis*.

The mere acceptance of this aim would naturally affect the subject-matter and the methods used in the teaching of history—a study which becomes supremely important during the period of adolescence. In the first place, it would emphasize the need for *world* history. If it be true that the vertical divisions between botany, biology, and history have to be bridged for the grasping of the evolutionary process, it is equally true that the geographical and racial divisions of mankind must not be regarded as absolute, but merely as indicative of divergent lines of human evolution. Consequently the history of any *one* nation—no matter how great that nation may be—is not enough to enable any pupil to grasp, even vaguely, the continuity of man's evolution. For nations rise and fall; empires flourish and pass away ; but the movement of human history remains. It endures by changing. And what is needed for its appreciation is the study of world-history, the history of man's struggles against untoward conditions, of his organizations of society, of his forms of government, and of the development of his understanding of the universe in which he dwells.

If specialization in the history of *one* nation fails to give insight into the nature of human evolution, what can be said of the still narrower specialization on *one* period in the history of that nation ? Yet it is not unusual to find pupils who have passed through secondary schools whose study of English history has begun at the Norman Conquest and petered out at the accession of Queen Victoria. There are even some whose studies have never passed beyond the

time of the Tudors. Whenever they have reached that stage they have been switched back to the year 1066, perhaps owing to the imminence of an examination conducted on the false assumption that one period can be cut off from its *before* and *after* and treated as a self-contained whole. It does not appear to have been sufficiently realized, either by historians or by practical teachers, that the past, as past, is dead : it lives only in its union with the present; and consequently any study of history which begins and ends in the past is, as it were, cut off from the very source of its life. It is on this account that Mr. H. G. Wells' attempt to write a world-history marks such a great advance in the right direction, for he writes always from the point of view of evolution. He may be inaccurate in details, but at least he avoids the fatal mistake made by so many historians, that of eliminating duration, and distorting a living creative evolution into a series of fixed events regarded as outside one another. He puts first things first: he sees history *sub specie durationis* ; and in the nature of things there is nothing to prevent corrections and retouchings and a gradual approach to a more perfect representation of the movement of human history.

It may, however, be argued that there is not sufficient time in school for the study of history, and especially of world-history, right up to the present time. Of course, the treatment cannot be detailed ; but surely much that has been taught in the past, for example, details of army campaigns and of route marches, could safely be omitted if only some adequate selective principle could be discovered. And in the light of the doctrine of creative evolution that principle is not difficult to decipher. Only those events that mark the design of a movement are really important. Only those things that have a connection with what has gone before, and that modify the things that come after—those events which throw light on the evolutionary process

and consequently on the present—need to be emphasized. As Keatinge puts it : "The chapters that throw no light on the problems of modern life and afford no assistance to the contemporary citizen must be relegated to the rubbish heap."[1] A spring-cleaning conducted on this plan would result in a considerable reduction of the burden usually imposed on the pupils' memories. At the same time, it would make possible a wider survey of human history and a truer sense of time-perspective, both of which are essential for the appreciation of history *sub specie durationis*.

One other thing is necessary for the apprehension of human evolution : more emphasis must be laid on the inner changes in the mind of man and less on outward events. The evolution of man's understanding of the universe, the growth of the sciences and the arts, the changes in his attitude towards plants, animals, and his fellow-men, the evolution of his spiritual experience and his religion, are more significant than the changes in customs and institutions to which they eventually give rise. Of course, it may be argued that the study of the movements of human thought and endeavour belongs to philosophy, and lies outside the scope of history. But it is this artificial separation of history from biology, on the one hand, and philosophy, on the other, that has resulted in unreality and confusion in the teaching both of history and of religion. It is imperative that the broad movements of human consciousness should be co-ordinated with history in the narrower sense of the term. The evolution of man is incomprehensible apart from his inner life ; and the more we can penetrate the outer shell of events to the thoughts, ideals, feelings, and aspirations which lie at the centre, the more likely it is that a direct intuition of evolution will become possible.

The acceptance of the new view of history would not

[1] Adams : *The New Teaching* (1918), p. 263.

only affect the selection of the subject-matter to be treated, but would also tend to modify the methods used in teaching. The same two conditions that had to be recognized in the teaching of biology will need to be taken into account in the teaching of history. In the first place, there will need to be a direct and sympathetic understanding of human individuals and of social groups. The student must be able to enter into the inner life of the people or the group that he interprets. In the early stages the use of dramatic methods would be a help to this end. By taking part in the representation of historic scenes the pupils may be helped to enter sympathetically into their inner meaning and into the kind of life lived by the people of the period. Later, the experiments in government made by the school community provide opportunities for the apprehension of the life of a social group from within. For example, if there is a school parliament the children's direct experience of its problems and functions, and of its evolution, would be most illuminating if it could only be properly co-ordinated with the study of history.

In the second place, the methods employed in teaching must be such as to preserve the continuity of the evolutionary process. There must be co-ordination of the past with the present. Every opportunity that presents itself of effecting this co-ordination in greater measure must be seized if the teaching of history is ever to be more successful than it has been in the past. Visits to places of historic interest, the use of contemporary records of events, discussions of traditions, customs, and superstitions that still remain, but that really belong to an earlier period, can be used to this end, if only the teacher is ready to teach history backwards sometimes as well as forwards. But to do this the teacher himself must have a very firm grasp of the continuity—a grasp which is dependent on an adequate philosophical, as well as historical, training, and also on the

possession of some degree of the artist's power of intuition. It is easy to advocate the employment of methods of teaching calculated to help children to grasp human evolution, but if these are adopted by teachers who have never themselves appreciated history as a duration, they will certainly be used without insight, and consequently without result. For example, it is not of the slightest use to fix the syllabus and to outline the precise methods that should be employed in the teaching of Old Testament scripture in order that some understanding of the growth of man's spiritual experience may result, if the teacher who is going to do the work has adopted, either consciously or unconsciously, the crude philosophical interpretation which regards the sacred books as literally inspired and written by the hand of God. All the different views concerning God and man, however inconsistent they may be, are to him equally true. And if he himself regards them as sections of a mosaic of static and absolute truth he will never help anyone else to appreciate them as a record of the evolution of man's understanding of God. It is, therefore, of supreme importance that the teacher of a " life " subject should not only know his subject, but should himself be in possession of an adequate philosophy of life.

Let us now suppose that the selection of the subject-matter, the guidance given, and the methods employed in the teaching of biology, history, and philosophy are such as to make possible the appreciation of life as a duration. Will it necessarily follow that the pupils will be able to use the intuitive method of apprehension ? Or will they require special training in the appreciation of durations in domains where the range of facts is not so extensive, and where, consequently, the difficulties in the way of intuition are not so overwhelming ?

Now it is obvious that there are certain studies, other than those of living plants and animals, which call for the

use of intuition, and which, properly taught, could be used to provide opportunities for the practice of appreciation. These are the arts, particularly the arts of music, poetry, and the drama; and one reason why these should be included in the curriculum is that by means of them there can be acquired that skill in the use of the method of intuition, which is so necessary for the growth of the individual's understanding of life. Deprived of artistic training, a boy or girl will probably lack one of the essential means of approach to wisdom, namely, a certain kind of insight into durations. And no training in scientific method or logic will make good this omission.

The appreciation of rhythm, for example, involves something other than analysis, namely, the carrying over of each member of the series into the next, so that the series becomes an indivisible whole. It involves the intuitive grasp of a continuity, and consequently can be a valuable preparation for the intuition of life itself, which also is rhythmical in its nature. No one has realized more clearly than M. Jacques Dalcroze the possibilities that exist in this direction in musical and rhythmic education. "To contrive, by means of a special training, to enable the child to sense distinctly the nature of its instinctive corporal rhythms, and of their divers successions, is," according to him, "to render him capable of sensing life itself in a more freely emotive spirit."[1] Those who regard eurhythmics as a system of physical training have not understood in the least the educational significance of the work of M. Dalcroze. It is true that he asserts that the employment of his methods would make for bodily health, but over and over again he emphasizes the value of the training given in musical appreciation. And he claims that the opportunities provided under his system for the practice of intuition are complementary to the intellectual training given in

[1] *Rhythm, Music, and Education* (1921), p. 243.

most other school subjects. Training in intellectual analysis and training in the appreciation of durations are both necessary for the full development of human beings.

The same kind of practice in intuition can, of course, be given through poetry or dramatic art. This is being increasingly realized by teachers of literature, who are now beginning to aim at the more direct cultivation of enjoyment. The recent revolt against annotated textbooks is evidence of the new realization that appreciation, and not analysis, is what is needed. The teacher no longer follows the old plan of hacking a poem into pieces. "It is absolutely essential," says Benson, "that something should be read fast enough to give some sense of continuity and range and horizon."[1] Analysis is not enough. Indeed, in some cases it may even prevent appreciation. What is required is a grasp of the continuity of the poem, an intuition of the indivisible movement of the author's thought. And the appreciation of a poem is therefore, from one point of view, an exercise in the method of intuition, just as the solution of a mathematical problem is an exercise in intellectual analysis.

The study of the work of a great artist, whether poet, dramatist, or musician, will not only provide opportunities for the practice of appreciation and the acquiring of skill in intuition, which can be carried over and used afterwards in the apprehension of life; but it may also be the direct means of bringing the pupil face to face with reality itself. "Art," says Bergson, "whether it be painting or sculpture, poetry or music, has no other object than to brush aside the utilitarian symbols, the conventional and socially accepted generalities, in short, everything that veils reality from us, in order to bring us face to face with reality itself."[2]

[1] *Cambridge Essays on Education* (Edited by A. C. Benson), p. 45.

[2] *Laughter* (1913), p. 157.

Art has no ulterior motive. It is

> the love of loving, rage
> Of knowing, seeing, feeling the absolute truth of things
> For truth's sake, whole and sole, not any good, truth brings
> The knower.[1]

The artist's vision is disinterested: it is direct and intuitive—

> God has a few of us whom he whispers in the ear;
> The rest may reason and welcome: 'tis we musicians know.[2]

And the artist's success in lifting the veil from the face of reality compels the student's imitation. It inspires him to efforts to grasp by intuition what the artist himself has grasped, and to see something of what he has seen. Indeed, its compelling power in this direction is a measure of the genuineness of the artistic work. In cases where the artist has himself penetrated into the inner life of things, it will be found that many will be able to follow, where only one could have led. Consequently, through the appreciation of the work of a great artist, children will not only be trained in the use of the method of intuition, but the compelling power of the artist's example will enable them to catch the strains of the immortal music and to see into the life of things. It will enable them to detach themselves momentarily from the mere struggle to live, which usually forces them to dwell on the useful aspects of things: and thus the direct apprehension of things as they are, will become possible.

What is true of great artists is true also of the great mystics who have arisen from time to time, and who appear to have possessed in exceptional degree the power of intuition. The record of the spiritual experiences of men who "by ever-renewed effort have vanquished the cry-

[1] Browning: *Fifine at the Fair.* [2] Browning: *Abt Vogler.*

stallizing tendencies of thought and attained an immediate, if imperfect, communion with reality " can inspire others to greater efforts to apprehend. The study of the mystical literature of the New Testament, and particularly of the records of the life of Christ, should therefore occupy an important place in the education of boys and girls, especially during the period of youth when they are powerfully impelled from within to seek a philosophy of life. Indeed, the provision of opportunities for this study is second in importance only to the provision of opportunities for the direct and continuous apprehension of life itself.

Of course, the views of poets and mystics should no more be imposed ready-made on the mind of a child than the views of philosophers and theologians. It is their example which is supremely important, since it may furnish him with an inspiration and a method of seeking truth. But his philosophy must be his own, arrived at by his own efforts and by the synthesizing of his own experiences. On this account adequate opportunities should be provided for the practice of silence. Indeed, not only intuitive, but creative, methods of teaching also, usually fail where these do not exist. If an individual in a school is always hurried from task to task, if he is continually harassed with definite duties that have to be performed to time, if he never has any opportunity for quiet, he will never succeed in finding any kind of unity in his experience. Not, of course, that silence rules need to be artificially imposed on all the pupils in a school or class. The living of a life involves constant intercourse and co-operation with others, and to enforce silence upon individuals when the impulse within is towards co-operation is worse than useless. But there are occasions when an individual's greatest need is to retire from the madding crowd and in silence to re-synthesize his experience. There are times when speech and explanation cease to be illuminating, and serve rather to dull and

distort, perhaps even to destroy, the embryo vision of reality. This is the time for silence, that silence which is a prelude to a new intuition of life.

In every school there should therefore be some silence room, or rooms, to which the children can have access for purposes of meditation. This is especially necessary in schools where the pupils govern themselves and are supposed to be free to choose their own occupations. They will never be really free, nor will they develop fully, if they are denied opportunities for the practice of silence. They need these just as much as they need opportunities for creative work and for social co-operation. Yet even educational reformers sometimes fail to realize that the growth of an individual can be as easily hindered through the repression of impulses towards the intuition of life, as through the thwarting of impulses towards self-expression and human fellowship. But the truth is that the higher stages in the development of an individual can never be reached until, by the practice of intuition, he learns to enter into harmonious relationships with reality itself. It is in this way, and in this way alone, that the superficially conflicting impulses within him gradually fall into some sort of harmony, so that eventually his soul is at one with itself, and he comes to possess that tranquillity and peace of mind which is a sign that he has at last attained to some measure of *real* freedom. And so intimately interwoven are the creative, social, and intuitive sides of his nature—in the depths they are not really three but one—that the practice of silence and the development of intuition not only enable him to orientate himself more perfectly to living creative evolution, but the visions of life which he thus gains make possible a higher order of creative work and a deeper enjoyment of human fellowship. By seeing himself in relation to that which is greater than himself, by union with the other spiritual forces in the universe, by

intercourse with the Supreme Person in whom all living beings are gathered, there is a reinforcement of the life urge within and a consequent enrichment of his whole personality. There results not a loss of individuality, but the lifting of the whole man to new levels of existence which make for greater individuality; not a separation from his fellows, but a deeper understanding of their real nature and destiny; not the passivity of death, but the enhanced creativeness of more abundant life.

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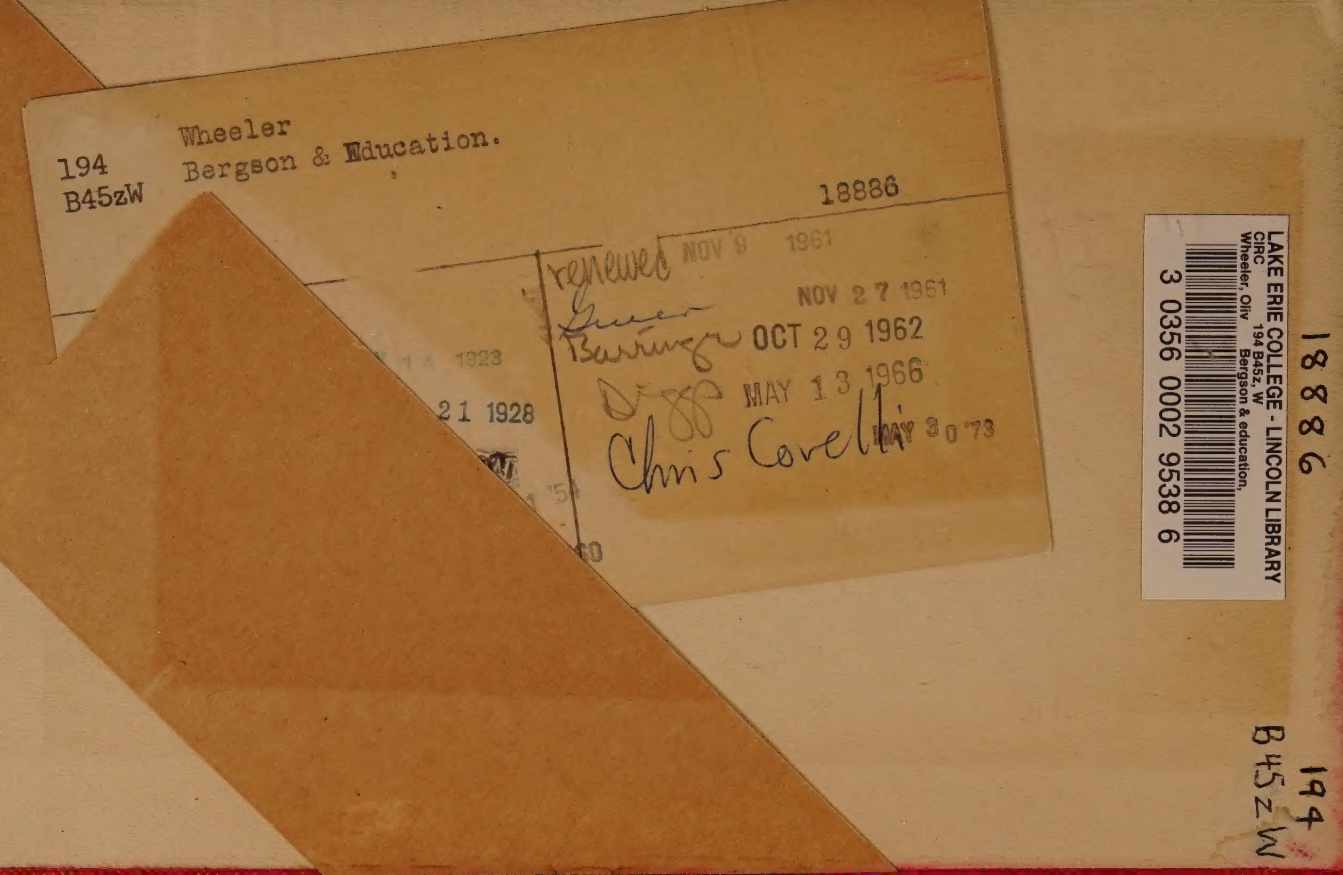
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